THE REPORT

OF THE

PRESIDENT

OF

QUEEN'S COLLEGE, BELFAST,

FOR

THE YEAR ENDING OCTOBER, 1874.

Presented to both Houses of Parliament by Command of Her Majesty.

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THE REPORT

OF THE

PRESIDENT OF QUEEN'S COLLEGE, BELFAST,

FOR

THE YEAR ENDING OCTOBER, 1874.

TO THE QUEEN'S MOST EXCELLENT MAJESTY.

MAY IT PLEASE YOUR MAJESTY,—

I have the honour of presenting to your Majesty the following Report regarding the condition of this College for the year ending in October last, 1874. In discharging this duty it affords me much satisfaction to be enabled to record the subjoined statements in reference to the various departments of the College, presenting as they do continued evidence of its adaptation to the progress of literature and science, and to the educational demands of the country at large. During the year embraced in this Report 375 Students were present in the College, attending in accordance with the requirements of the Calendar on their different courses of lectures. The diligence and advancement in learning of the great mass of these Students has been gratifying to the distinguished Professors charged with their instruction. In the varied competitive examinations into which many of the Students have entered, whether for the public service or for university and collegiate distinction, they have conferred honour on the College which trained them, and have reaped important benefits for themselves. This success in various arenas of intellectual conflict, whilst it reflects much credit on the young men, affords an additional testimony to many former evidences of the sound learning, the great ability, and the unflagging zeal of the eminent corps of Professors whom your Majesty has been pleased to place in their respective chairs. Knowing as I do the constant demands that are made on the time and talents of these gentlemen, in the preparation and delivery of their lectures, and in conducting the various examinations required both in the College and in the University, and sharing with them myself their fixed determination to make this College a centre of science and literature worthy of its name and of the desires of its founders, I cannot help tendering to them the expression of my thankfulness, for their untiring efforts and their unquestionable success. Nor is it the least agreeable part of my duty in presenting this Report, to

record my conviction that the perfect practicability and public advantage of united education, carried on within the same walls and in the same lecture rooms, has been year after year tested and established, in all the departments of this College. Professors and Students of the various religious denominations, meet and mingle here, exercising towards one another all due respect for the rights of conscience, forming friendships that endure, and affording a salutary example that a fixed adherence to religious opinions is perfectly compatible with all the charities, engagements, and amenities of public and social life. In setting an example in this respect, and in fostering every sentiment of mutual good-will and kindly interchange of feeling, the authorities of this College have fulfilled the important mission assigned to them by your Majesty. The various Tables found subjoined in the body of my Report itself, as well as in the Appendix, will afford abundant proof of the increase and expansion of this College from the period of its inauguration in 1849. It appears from the register of the College that since its opening 2,754 Students have been enrolled, and have prosecuted, or are now prosecuting, their collegiate and university studies, and that in the last two years there has been an increase of 41 Students. Of the 375 returned in the present Report as having been in attendance in the Session ending in October last, 344 were matriculated and 31 non-matriculated; the greater number of the latter being Medical Students. It will be observed from this return that a most remarkable change has of late years taken place in the relative numbers of matriculated and non-matriculated Students, particularly since the Queen's University has come into full operation, and is exercising its functions and privileges in the several departments of Arts, Medicine, Law, and Engineering. Let the Session 1855–56 furnish an example. In that year 193 Students were in attendance at the College; of these 119 were matriculated and 74 non-matriculated. I cannot, therefore, overlook the immense practical benefit which the Queen's University in Ireland has conferred on this and on its sister Colleges. The Report of that University just published records no fewer than 2,455 degrees and diplomas in the various departments having been conferred by its Senate, since its opening. The words of our noble Chancellor, the Duke of Leinster, in giving an address in St. Patrick's Hall, at the conferring of degrees, are worthy of being recorded. "Our graduates," said the Chancellor, "are indeed now, after twenty-four years of our labour, becoming a large and widely scattered body of growing influence. In India, in China, in the United States, and in the British Colonies, as well as at home, wherever, in fact, the English tongue is predominant, or European language is spoken, our graduates are found in posts of honour and of influence; and let me express the hope that our Students passing now from the competitions of the Queen's University into the more extended struggles of the great University of the world will carry into the wide arena the elevating and kindly influences which they have been so fortunate to receive in their collegiate courses."

The four following tables will be found both satisfactory and comprehensive.

In making the Denominational Returns I have thought it right to classify the students of the various Churches as they have designated themselves in the forms filled up by them at entrance.

I.—NUMBERS and RELIGIOUS PERSUASIONS of STUDENTS attending Lectures in QUEEN'S COLLEGE, BELFAST, in each Session from its opening.

Sessions.	Matriculated.	Non-Matriculated.	Total.	Church of Ireland.	Roman Catholic.	Presbyterian.	Methodist.	Independent.	Various.	Total.
1849–50,	90	105	195	33	5	145	4	1	.7	195
1850–51,	110	75	185	33	10	135	4		1	183
1851–52,	120	69	189	49	14	129	5		1	189
1852–53,	101	53	154	33	15	100	4		2	154
1853–54,	114	54	168	36	14	107	6		5	168
1854–55,	118	65	183	34	14	131	3		1	183
1855–56,	119	74	193	38	10	131	5	2	3	193
1856–57,	136	58	194	55	74	131	3	2	9	194
1857–58,	153	54	207	81	14	104	4	1	3	207
1858–59,	160	63	223	45	14	153	8	2	.1	223
Average of first 10 years,	122·1	67	189·1	43·5	13·5	131·7	4·6	·9	3·3	189·1
1859–60,	199	53	257	43	16	184	8	2	4	257
1860–61,	239	73	312	57	22	217	7		10	312
1861–62,	299	76	375	59	17	266	15	4	16	375
1862–63,	335	53	388	61	26	273	11	3	14	388
1863–64,	340	47	387	63	26	261	10	3	24	387
1864–65,	356	49	405	58	22	285	9	1	30	405
1865–66,	360	53	413	60	19	261	13	2	35	413
1866–67,	357	30	387	57	19	225	18	1	67	387
1867–68,	357	33	390	59	16	233	25	2	55	390
1868–69,	330	38	368	51	15	220	26	2	54	368
Average of second 10 years,	317·2	51	368·2	56·6	19·6	244·6	14·0	2·0	31·2	368·2
1869–70,	328	25	353	57	16	224	29	4	23	353
1870–71,	337	43	380	76	14	226	29	4	38	380
1871–72,	325	33	358	60	17	208	12	1	43	358
1872–73,	328	23	351	79	15	208	21	1	32	351
1873–74,	344	31	375	67	17	201	26	2	42	375

[Table.

II.—Numbers and Religious Persuasions of Students who have entered Queen's College, Belfast, in each year since its opening.

Sessions	Matriculated	Non-matriculated	Total	Church of Ireland	Roman Catholic	Presbyterian	Methodist	Independent	Various	Total
1849-50,	30	105	135	14	8	105	5	1	2	135
1850-51,	41	42	83	15	7	57	2		2	83
1851-52,	42	40	82	5	16	57	2	1	1	82
1852-53,	31	25	56	8	7	38	2		1	56
1853-54,	39	36	75	9	10	52	2	1	1	75
1854-55,	41	44	85	12	14	55	2		2	85
1855-56,	33	29	62	8	10	39	3		2	62
1856-57,	47	24	71	8	8	52	2		1	71
1857-58,	43	28	71	8	8	51	2		2	71
1858-59,	51	37	88	24	8	51	4	1		88
Entered first 10 years,	459	395	854	133	110	562	23	4	22	854
1859-60,	66	24	90	14	6	54	4			90
1860-61,	96	41	137	29	8	85	3		7	137
1861-62,	114	38	152	27	5	101	6	3	10	152
1862-63,	115	22	137	22	12	93	3		7	137
1863-64,	109	18	127	26	3	82	3		7	127
1864-65,	108	27	135	22	6	87	5		7	135
1865-66,	88	30	118	17	7	83	5		6	118
1866-67,	95	12	107	18	6	61	10		14	107
1867-68,	90	22	112	29	5	63	1		13	112
1868-69,	79	24	103	16	7	60	6	2	12	103
Entered in second 10 years,	960	256	1,218	209	72	792	46	7	92	1,218
Total in 20 years,	1,421	651	2,072	342	182	1,354	69	11	114	2,072
1869-70,	83	15	98	28	8	54	4	1	8	98
1870-71,	84	30	114	36	2	57	3	1	10	114
1871-72,	78	25	103	29	6	50	5	1	13	103
1872-73,	89	14	113	13	6	69	9		5	113
1873-74,	89	44	133	32	6	86	2	2	5	133
	1,863	760	2,623*	340	160	1,630	108	16	166	2,623*

III.—Return of the Number of Medical Students in attendance in each Session.

Session	Matriculated	Non-Matriculated	Total	Session	Matriculated	Non-Matriculated	Total
1849-50,	28	27	55	1862-63,	89	33	122
1850-51,	20	35	55	1863-64,	110	33	143
1851-52,	25	39	64	1864-65,	126	25	151
1852-53,	29	33	62	1865-66,	130	29	159
1853-54,	29	37	66	1866-67,	157	17	174
1854-55,	39	36	75	1867-68,	163	18	181
1855-56,	33	48	81	1868-69,	150	24	174
1856-57,	36	25	61	1869-70,	146	20	166
1857-58,	35	32	67	1870-71,	168	26	194
1858-59,	38	38	76	1871-72,	162	21	183
1858-60,	56	39	95	1872-73,	174	14	188
1860-61,	70	46	116	1873-74,	175	30	205
1861-62,	81	49	130				

* Of the 760 who entered as non-matriculated Students, 167 afterwards passed a matriculation examination. The College Register contains 2,030 matriculated and 593 non-matriculated, in all 2,623 students.

† Adding the return for the present incomplete Session, 1874-75, 2,734 Students have been enrolled since the opening of the College, and 392 are now in attendance.

IV.—RETURN showing the NUMBER of STUDENTS attending the Lectures of each PROFESSOR in each year since the opening of the College.

PROFESSOR OF	1849-50	1850-51	1851-52	1852-53	1853-54	1854-55	1855-56	1856-57	1857-58	1858-59	1859-60	1860-61
Greek,	71	74	46	23	32	38	43	36	44	58	77	100
Latin,	73	72	54	28	32	35	40	39	44	52	72	95
Mathematics,	86	79	51	36	42	44	45	62	53	69	79	95
English,	52	46	28	23	20	15	24	25	17	56	58	150
Modern Languages,	62	56	41	31	34	52	43	52	56	63	78	150
Celtic,				The Lectures open to the public.								
Natural Philosophy,	48	43	61	22	48	33	35	37	43	34	46	95
Natural History,	12	49	75	32	56	68	58	69	67	87	84	77
Mineralogy,	8	..	14	15	15	13	9	10	13	11	16	
Logic & Metaphysics,	..	5	43	39	44	43	43	51	45	54	44	79
Chemistry,	49	56	75	55	62	70	60	76	63	86	99	83
Engineering,	10	13	15	9	12	19	8	17	16	11	16	14
Agriculture & Mech. and Jurisprudence,	13	21	24	14	22	17	16	20	25	22	27	21
Anatomy,	53	44	55	61	58	53	62	52	68	81	101	
Medicine,	9	17	17	12	15	18	19	14	19	22	29	59
Surgery,	24	15	26	29	28	30	48	33	30	39	49	63
Midwifery,	14	10	14	19	14	18	24	13	7	17	14	26
Materia Medica,	11	14	16	17	17	23	23	11	12	22	27	33
English Law,	17	16	17	13	15	10	14	19	13	9	7	9
Jurisprudence,	11	11	13	10	..	11	..	15	12	27	20	23

PROFESSOR OF	1849-50	1850-51	1851-52	1852-53	1853-54	1854-55	1855-56	1856-57	1857-58	1858-59	1859-60	1860-61	
Greek,	160	157	129	133	118	74	72	73	64	68	62	61	72
Latin,	130	149	115	118	112	84	65	79	77	76	77	66	71
Mathematics,	102	128	111	113	85	80	61	97	84	68	68	67	72
English,	116	135	128	118	113	102	81	81	88	74	79	83	159
Modern Languages,	177	150	125	146	151	150	142	128	137	129	128	150	142
Celtic,					Vacant.								
Natural Philosophy,	95	104	106	102	116	113	108	149	..	102	104	89	113
Natural History,	87	63	112	121	161	47	118	166	86	139	110	168	84
Mineralogy,	..	..	9	14	15	11	16	10	10	11	12	13	14
Logic & Metaphysics,	106	114	103	91	116	101	81	91	89	63	52	53	89
Chemistry,	106	161	164	122	164	127	122	126	116	129	122	118	130
Engineering,	16	25	30	21	29	27	24	28	38	16	28	23	34
Agriculture & Mech. and Jurisprudence,	24	22	..	..	..	..	..	..	27	..	..	..	..
Anatomy,	107	105	114	133	135	135	157	147	151	134	169	174	179
Medicine,	43	37	36	44	48	67	69	57	61	68	57	70	90
Surgery,	63	54	47	49	56	77	79	73	63	73	78	81	89
Midwifery,	36	22	54	19	23	36	47	30	40	32	36	46	53
Materia Medica,	38	37	29	38	32	48	43	40	55	53	56	53	57
English Law,	14	12	12	14	13	20	13	23	30	21	28	33	57
Jurisprudence,	20	22	27	13	18	19	..	27	22	26	31	37	89

This return is given more fully in detail in the Appendix, pp. 18, 19. The returns of Lectures delivered in each Session appear in pp. 24, 25 of the Appendix.

It becomes our duty to present to your Majesty and your Majesty's Government, once more, with feelings of the most respectful earnestness, my opinion regarding the present position of the Queen's Colleges in Ireland, as requiring from your Majesty's Government a full and immediate consideration of their claims to be placed on a foundation of permanent and more extended usefulness. I believe it has not escaped the attention of your Majesty's advisers, that the Colleges to be adapted to the purposes of spreading more widely the blessings of high education, ought to possess increased endowments, in order to extend their libraries, to furnish more appropriately the laboratories of the physical, natural, and experimental sciences, and

also the departments of the surgical and medical schools. Besides in various ways it operates injuriously to leave the professors and officers of the Queen's Colleges underpaid, and disheartened with their positions, struggling to maintain the rank which men of learning and gentlemen are expected to hold, and this at a period when the Government, taking into account the immensely increased scale of living, are properly raising the salaries of their public servants, in almost every department of the State.

The Deans of Residences have furnished me with reports regarding the character and conduct of the Students placed by Statute under their spiritual jurisdiction. So far these reports are satisfactory; but I continue to think that by a change of Statute, more direct and extended supervision of the Students belonging to their respective churches ought to be afforded to these functionaries, so that the important design of their having been attached to the College, and their appointment might be fully observed and carried out. Since the reports which I now print were presented to me by the Deans, I have been enabled to assign to each of those gentlemen a room within the College walls to meet the Students of their denominations for religious instruction weekly, at a specified hour, so that I have the assurance of the Deans that this arrangement will be satisfactory to them and beneficial to the Students. One great advantage arising from the existence of Deans of Residences is that each having a full list of the Students of his own denomination furnished to him annually by the Registrar, he has an opportunity for domiciliary visits and otherwise, of making himself personally acquainted with the Students belonging to his church. Saturday has always been known to be the day on which the Deans of Residences might give religious instruction within the College walls to the Students assigned to them; but from want of statutory authority over the body of the Students, who regard Saturday as a "Dies non," the Deans have been unable to secure their attendance. The recent important introduction of the summer classes, relieving the winter session from an inordinate pressure of duty, has enabled me to afford to the Deans a time for religious instruction distinct from Saturday. Doctors Porter and Scott have, besides, peculiar advantages in meeting the Students of their respective Churches in their own denominational Colleges.

The continued prosperity of the Medical School will be easily deducible from the table that refers to it. That this important department should have steadily risen from 55 students (only 28 then being matriculated), in the year 1850, to 205 in the past session, 175 being matriculated, is a very remarkable increase, and fully justifies the choice which the original founders of the College made in selecting Belfast as the site for the Northern College, principally in regard to the advantages which this town presents for founding and sustaining a great Medical School. The General Hospital of Belfast, now extended and increased in its accommodation through the great munificence of Mr. Mulholland and Mr. Charters; the zeal and assiduity of the Medical Staff presiding over and giving instruction in that admirable establish-

ment; the existence of the new and commodious anatomical rooms within the College grounds; the teaching power within the Medical faculty itself; all these have contributed to place this department of the College in a very satisfactory condition.

The Anatomical and Medical buildings of the College are certainly amongst the best in the kingdom for spaciousness, ventilation, and adaptation to the purposes to which they are devoted.

Only one drawback, in reference to the Library and Museums of the College, a sense of duty compels me to notice in this Report. Personally, I took my full share in the efforts that secured some years ago a grant of £1,000 per annum to each of the Queen's Colleges, for the founding and extending of the Libraries and Museums, and for the constant supply of the necessary objects of illustration, and of apparatus for experiments; all absolutely indispensable in this age of scientific discovery and advancement. £1,000 a year still remains, though quite inadequate for the maintenance of the College, and for the purposes above indicated. £600 a year of the £1,600 referred to was abstracted for increasing, to a very small extent, the salaries of the Professors. That increase, trifling as it was, ought to have been made from funds entirely distinct, without infringing on a grant barely adequate for founding and sustaining such Libraries and Museums as ought to exist in a public Governmental College, embracing all the departments of Arts, and those also of Medicine and Law. I draw your Majesty's attention to the want which is already felt through this reduction of the grant, hoping that the applications, so often and urgently made for its restoration, may, on their merits, be favourably received.

As one of the constituents of the Queen's University in Ireland, this College continues to hold its high position. The number of Students it furnishes yearly for graduation, as well as the distinguished place they annually occupy in the lists of University honours and exhibitions, affords a most satisfactory proof of the zeal and talent of the Students.

That any difficulty should arise as to the granting of Representation in Parliament to the Queen's University under the new Reform Act, is a matter deeply to be lamented. The justice and expediency of this has been officially presented to your Majesty's advisers; and the question has, in various ways, and from the most influential quarters been pressed on their attention, and whilst the strength of the claim is fully admitted, it is to be hoped that a member will speedily be assigned to our University. To leave it in a state of isolation as the only unrepresented University in the empire, when already it commands a constituency unsurpassed by any other for general intelligence—a constituency which will steadily increase every year, would injure the great interests of education, and deprive the graduates of constitutional privileges to which they are justly entitled.

Various returns will be found given at full length in the subjoined Appendix—viz., annual Reports to me from the Deans of Residences, statements of the fees paid to each professor, of the number of students in each class, of the number of lectures

delivered from the different chairs, together with the accounts of expenditure, an enlarged digest of subjects, and the papers used at the various examinations during the past session.

All of which, on behalf of this College, is testified by your Majesty's most dutiful servant,

P. SHULDHAM HENRY,
President.

QUEEN'S COLLEGE BELFAST,
14th May, 1875.

REPORTS OF THE DEANS OF RESIDENCES.

The Reports of the Deans of Residences to me for the Session ending October, 1874, are now printed in the order of the appointment of those functionaries.

Queen's College, Belfast.

To the Reverend P. SHULDHAM HENRY, D.D., *President.*

REVEREND SIR,—I have the honour to report that the number of Presbyterian students attending this College during the Terms of 1873-74, according to the official lists furnished to me, was 183.

Their conduct, in so far as it came under my observation, was in all respects perfectly satisfactory; and I was pleased to see and learn that their intercourse in the class-rooms and halls with the members of other churches was not only free from every appearance of sectarian feeling, but was characterized by that cordiality and mutual respect which cannot fail to promote the peace and prosperity of the country.

I have now held the office of Dean for seven years, and during the entire period, though I have lived beside the College, and have had daily opportunities of meeting with large bodies of the students, I have never known or heard of a single case in which the religious views of any student were ever alluded to by his class-fellows.

In regard to the members of the Presbyterian Church in attendance upon this College, I believe I am justified in saying that they esteem it a privilege to have the opportunities there afforded them of meeting with their fellow-countrymen of all denominations, and of uniting with them in the study of the great common truths of philosophy and science. This is, in my opinion, the best preparation for the right discharge of whatever public or social duties may devolve upon them in after life.

At the same time I feel bound to report that the arrangements for the religious instruction of the students are not satisfactory. No specific time is assigned for it, and, therefore, it appears to have no place in the College curriculum. Hitherto, in consequence of the meetings of the ordinary classes, I have not been able to secure any large assemblage of students on a weekday. I would consequently venture to suggest the propriety of setting apart at least one hour each week for religious instruction. This plan, while leaving perfect freedom to all, would at the same time give religion a place in the curriculum, and would very materially assist the Dean in the discharge of his difficult and responsible duties.

I have the honour to be, Reverend Sir, your obedient servant,

J. L. PORTER, D.D., LL.D., *Dean of Residences.*

St. Andrew's Church, Belfast,
January 12, 1875.

DEAR MR. PRESIDENT,—I have to report that the students under my care as Dean of Residences (Church of Ireland) have during the Session 1873-4 conducted themselves most satisfactorily. They have in nearly all cases been connected with some church, which they have attended

with tolerable regularity, so far as I could learn. Several of them acted as Sunday-school teachers in my own and other churches of the town.

I have great hopes that, with the cessation of a lingering delicacy after a severe illness, I shall be able to devote more time in future to the spiritual care of the students belonging to the Church of Ireland branch of the Queen's College, Belfast.

EDWARD BUSBY, M.A., LL.D., T.C.D.,
Dean of Residences (Church of Ireland),
Queen's College, Belfast.

Methodist College, Belfast,
January 14th, 1875.

MY DEAR SIR,—I am in receipt of your favour of the 12th instant, requesting a report of the Wesleyan students for the College Session of 1873-74, to be sent through you to the Church of Ireland branch, and in reply beg to submit the following :—

The number of students upon my list during the Session was about 20. For their religious instruction I held a weekly meeting in one of the class-rooms of the Methodist College. From the nature of their engagements some were unable to attend regularly, and a few not at all; but I had reason to believe that no one absented himself through indifference, and that those who did not attend had the benefit of religious instruction elsewhere. The conduct of all was highly satisfactory.

I am, my Dear Sir, yours faithfully,

ROBINSON SCOTT, D.D.,
Dean of Residences, Queen's College Belfast.

Rev. R. Oulton, Registrar.

16, College-square, East, Belfast,
19th January, 1875.

REVEREND AND DEAR SIR,—In consequence of the shortness of the time which has elapsed since the date of my appointment to the office of Dean of Residences, I have not yet been able to arrange any course of instruction for the students who are placed under my superintendence. I have, however, received a list of their names and addresses, and intend to invite them, by circular, to attend a meeting either at my own house or in the College, when I propose to prescribe to them certain exercises to be performed, and studies to be pursued by them during the remainder of the Session, on the result of which I hope to be able to give in a satisfactory report in due time.

I remain, Reverend and Dear Sir, most respectfully yours,

J. SCOTT PORTER,
Dean of Residences.

Reverend Dr. Henry, President,
Queen's College, Belfast.

APPENDIX.

APPENDIX, No. 1.

QUEEN'S COLLEGE, BELFAST, AND QUEEN'S UNIVERSITY.

THE COLLEGE is a Corporation under the name and style of "QUEEN'S COLLEGE, BELFAST." It was founded under the provisions of the Act 8 & 9 Victoria, cap. 66, intitled "An Act to enable Her Majesty to endow new Colleges for the Advancement of Learning in Ireland." Under the powers given by this Act, it was determined to found three Colleges. Belfast, Cork, and Galway, were selected as the sites of these Colleges, and on the 30th day of December, 1845, letters patent were issued, incorporating them. The Presidents and Vice-Presidents of the three Colleges were formed into a Board, called "The Board of Queen's Colleges," for the purpose of drawing up the statutes and arranging the system of education to be pursued in them.

On the 4th of August, 1849, the Professors were appointed, and the Colleges opened for the reception of students on the 30th October, in the same year.

Letters patent, constituting the statutes, were issued on the 11th of December, 1849, and a further charter was issued in the year 1863.

THE COUNCIL OF THE COLLEGE.

The President.
The Vice-President.
C. MacDouall, LL.D., Professor of Greek.
Charles Duke Yonge, M.A. (Oxon.), Professor of History and English Literature.
P. Redfern, M.D., Professor of Anatomy.
J. Purser, M.A., Professor of Mathematics.
W. Nesbitt, M.A., Professor of Latin.
J. Cuming, M.D., Professor of Medicine.

PROFESSORS.

The Greek Language, .	Charles MacDouall, LL.D., M.R.I.A.
The Latin Language, .	William Nesbitt, M.A.
History and English Literature,	Charles Duke Yonge, M.A. Oxon.
Modern Languages, .	A. L. Meissner, PH.D.
Mathematics, .	John Purser, M.A., M.R.I.A.
Natural Philosophy, .	Joseph David Everett, M.A., D.C.L.
Chemistry, .	Thomas Andrews, M.D., F.R.S., M.R.I.A.
Natural History, .	Robert O. Cunningham, M.D., F.L.S.
Logic and Metaphysics, .	John Park, M.A.
Civil Engineering, .	George Fuller, C.E.
Agriculture, .	John F. Hodges, M.D., F.C.S.
Anatomy and Physiology, .	Peter Redfern, M.D. Lond., F.R.C.S.
Practice of Medicine, .	James Cuming, M.D.
Practice of Surgery, .	Alexander Gordon, M.D.
Materia Medica, .	James Seaton Reid, M.D.
Midwifery, .	R. F. Dill, M.D.
English Law, .	Eshin Melmyen, A.M.
Jurisprudence and Political Economy, .	T. E. Cliffe Leslie, M.A.

Appendix,
No. 1.
Queen's
College,
Belfast, and
Queen's
University.

OFFICE BEARERS.

Curator of Museum,	.	.	.	The Professor of Min., Geo., and Nat. Hist.
Registrar,	.	.	.	Rev. Richard Oulton, D.D.
Librarian,	.	.	.	Rev. George Hill.
Bursar,	.	.	.	John Wylie, Esq.

DEANS OF RESIDENCES.

	Appointed.
General Assembly of the Pres-	
byterian Church in Ireland,	Rev. Josias Leslie Porter, D.D., LL.D., 1866
Wesleyan Methodists,	Rev. Robert Crook, LL.D., 1871
Church of Ireland,	Rev. Samuel E. Busby, LL.D., 1873
Irish Association of Non-Sub-	
scribing Presbyterians,	Rev. John Scott Porter, 1874

The Deans are designated as they wish themselves to be called.

The students of the College are either Matriculated or Non-matriculated. All the courses for Matriculated students in Arts, including the Department of Civil Engineering, and also in the Faculties of Medicine and of Law, will be found in the Calendar, which is published annually.

Non-matriculated students, on paying the regulated class fees, and signing an engagement to observe order and discipline in the College, are permitted, without undergoing a preliminary examination, to attend any separate course or courses of Lectures; but are not permitted to become candidates for Scholarships or Prizes, or to enjoy other privileges of the Matriculated students.

Students in any of the Faculties can be admitted *ad eundem* from the other Queen's Colleges, or from any University capable of granting degrees.

COLLEGIATE SCHOLARSHIPS.

In the FACULTY OF ARTS—30 Junior Scholarships, of £24 each, are awarded to Undergraduates—15 for proficiency in Literature, and 15 for proficiency in Science; also, 8 Senior Scholarships, of £40 each, to Graduates, one being limited to students who have also completed the course for the degree of LL.B.; and 5 Scholarships, of £20 each, to Engineering Students.

In the FACULTY OF MEDICINE—8 Junior Scholarships, of £25 each, are awarded.

In the FACULTY OF LAW—3 Junior Scholarships, of £20 each, are awarded.

SCHOLARSHIPS AWARDED IN THE SEVERAL FACULTIES, 1873–74.

8 Senior Scholarships awarded.
19 Junior Scholarships in Arts awarded.
3 Engineering Scholarships.
8 Medical Scholarships.
4 Law Scholarships.

1872–73.

7 Senior Scholarships awarded.
20 Junior Scholarships in Arts awarded.
5 Engineering Scholarships.
8 Medical Scholarships.
4 Law Scholarships.

By an order of Her Majesty in Council, of 21st May, 1855, applying to the Civil Service, it is ordered that "every person nominated to a junior situation should obtain a certificate of qualification before entering on his duties." The ordinary classes in Queen's College embrace the branches required in the Examinations for the Civil Service, and also in the Examination for students intending to become candidates for commissions in the Royal Artillery and Engineers, and for appointments to the Civil Service of India, both of which are now thrown open to public competition.

QUEEN'S UNIVERSITY IN IRELAND.

The charter founding the Queen's University in Ireland received the Royal sanction in the year 1850, and it provides that its Senate should have the power of conferring upon the students of the Queen's Colleges of Belfast, Cork, and Galway, such degrees and distinctions, in the Faculties of Arts, Law, and Physic, as are granted and conferred in other Colleges and Universities of Great Britain and Ireland. It further ordains that any of the students of the three Queen's Colleges, who shall have obtained such degrees in any of the several Faculties of Arts, Medicine, and Law, as shall be conferred by the Chancellor and Senate of the Queen's University, shall be fully possessed of all such rights, privileges, and immunities, as belong to similar degrees granted by other Universities or Colleges, and shall be entitled to whatever rank and precedence is derived from similar degrees granted by other Universities.

By the charter of the Queen's University, candidates for Degrees in Medicine are required to have attended *at least two courses of Medical Lectures* in some one of the Queen's Colleges. For the remainder of the courses of Medical Lectures, authenticated certificates will be received from the Professors or Lecturers in Universities, Colleges, or Schools, recognised by the Senate of the Queen's University in Ireland.

The Chancellor and Senate also have the power of admitting, by special grace, Graduates of other Universities to similar and equal degrees.

In order to obtain a degree or diploma in the Queen's University it is necessary to enter the College as a Matriculated Student, to pass the entrance or Matriculation Examination, and to pursue a fixed course of study.

The Matriculated Students may be classified as follow:—

I.   Those intending to proceed to the Degrees of A.B. and A.M.
II.   "   "   "   Degree of M.D.
III.   "   "   "   Diploma of Elementary Law.
IV.   "   "   "   Degrees of LL.B. and LL.D.
V.   "   "   "   Diploma of Civil Engineering.
VI.   "   "   "   Diploma of Surgery.

THE SENATE.

Chancellor.—His Grace the Duke of Leinster, M.A. (Oxon.)
Vice-Chancellor.—Sir Dominic J. Corrigan, Bart., M.D., Physician in Ordinary to the Queen in Ireland.
The Rev. P. Shuldham Henry, D.D., M.R.I.A., President Queen's College, Belfast.
Edward Berwick, B.A., President Queen's College, Galway.
Sir Robert Kane, M.D., &c.
Sir Nugent Griffith, Bart., LL.D., &c.
Major-General Sir Thomas Aiskew Larcom, R.E., K.C.B., LL.D., F.R.S., M.R.I.A., &c.
James Gibson, A.M., Q.C., M.R.I.A., Barrister-at-Law.
The Right Hon. James Henry Monahan, Lord Chief Justice of the Common Pleas.
The Right Honorable Sir Robert Peel, Bart., M.P.
The Right Reverend the Lord Bishop of Killaloe, D.D.
His Grace the Archbishop of Dublin, D.D.
The Lord Talbot de Malahide, F.R.S., M.R.I.A.
The Lord Claremont, D.C.L.
Right Honorable Lord Riley.
Right Honorable Lord O'Hagan.
William K. Sullivan, esq., Ph.D., President Queen's College, Cork.
David Ross, M.A., LL.D.
William MacCormac, M.A., M.D.
Thomas William Moffett, LL.D.
Peter Redfern, M.D.
Maxwell Simpson, M.D., F.R.S.
Sir Robert Kane, F.R.S., LL.D., &c.
Rev. R. Scott, D.D.
Andrew M. Porter, M.A., Q.C.
Secretary.—G. Johnstone Stoney, M.A.—Office, Dublin Castle.

The Senate holds its sitting in Dublin Castle, where the examinations of the students of the three Colleges, for Graduation and University Exhibitions, are annually conducted by Examiners appointed by the Senate from year to year.

B

APPENDIX, No. 2.

RETURN of the NUMBER of STUDENTS attending each CLASS in the Queen's College, Belfast, in each Year.

CLASS.	1849, 1850.	1850, 1851.	1851, 1852.	1852, 1853.	1853, 1854.	1854, 1855.	1855, 1856.	1856, 1857.	1857, 1858.	1858, 1859.	1859, 1860.
Greek—1st year . . .	71	47	28	16	21	32	29	24	31	36	45
,, 2nd ,, . . .	27	16	7	11	12	14	12	13	17	23	33
,, Higher ,, . . .	..	..	..	..	..	..	..	..	..	..	..
Latin—1st year . . .	63	45	27	19	21	34	27	19	33	34	48
,, 2nd ,, . . .	..	27	12	6	11	11	13	10	11	18	20
,, Higher ,, . . .	..	..	..	..	..	..	..	..	..	..	..
The English Language .	62	46	29	20	24	26	31	24	36	41	49
History and English Literature,	..	25	15	20	18	20	19	20	24	24	18
Senior . . .	..	..	..	..	..	..	..	..	..	..	..
Modern Languages (French, German, Italian)—	62	38	41	27	34	37	29	40	40	50	76
Junior . . .	..	20	28	15	15	15	19	12	16	13	17
Senior . . .	..	..	..	..	..	..	..	..	..	..	..
The Celtic Language .	86	56	40	25	29	43	34	25	39	45	61
Mathematics—1st year .	..	26	11	11	13	11	15	10	14	13	18
,, 2nd ,, .	..	12	..	..	..	..	..	..	..	..	..
,, Higher ,, .	..	..	..	6	6	8	7	4	..	5	..
Nat. Philosophy—Higher Class,	53	23	46	24	39	33	24	19	26	25	34
,, Mathematical Physics, &c.	48	50	57	29	40	34	37	41	39	42	67
,, Experimental Physics,	..	..	..	..	..	..	..	..	..	..	..
,, Practical Mechanics,	3	..	..	..	..	..	..	..	..	..	..
Natural Philosophy applied,	..	..	..	..	..	..	7	5	4	4	..
Chemistry . . .	57	33	63	44	51	60	50	70	60	74	81
Practical Chemistry .	7	14	10	15	14	12	11	17	13	19	18
Laboratory . . .	8	8	9	9	10	15	11	14	10	10	14
Zoology . . .	12	14	35	29	31	45	34	43	56	50	47
Botany . . .	12	49	46	53	37	46	36	44	34	62	35
Physical Geography .	..	..	20	17	21	19	20	21	28	23	28
Logic . . .	3	..	27	17	21	26	27	29	29	19	33
Metaphysics . . .	..	..	18	13	16	11	17	30	15	19	18
Higher Logic and Metaphysics,	..	..	6	7	7	8	6	7	9	9	13
Mineralogy and Geology,	Public	6	14	13	13	18	9	20	13	11	16
Surveying . . .	10	9	9	6	5	3	11	11	..	..	..
Civil Engineering,	11	8	9	4	3	4	17	14	3	4	1
Theory of Agriculture,	11	8	7	2	6	5	3	4	7	7	7
Practice of Agriculture,	5	3	2	5	1	1	3	1	..	..	..
Diseases of Farm Animals,	5	3	2	5	5	3	..	4	1	3	3
Medical Jurisprudence, &c.	2	8	14	10	13	8	10	15	13	17	14
Anatomy . . .	4	22	48	43	44	51	44	30	36	40	45
Practical Anatomy .	27	32	35	40	40	41	32	33	41	44	62
Practice of Medicine,	9	17	17	13	18	16	33	27	19	29	38
Practice of Surgery,	24	15	36	29	38	36	32	27	29	23	39
Materia Medica .	11	14	16	17	17	23	16	12	16	17	25
Midwifery . . .	8	13	16	13	16	18	11	12	15	10	18
Law of Property,	..	..	..	..	..	..	..	..	..	..	..
Equity of Distringney	..	..	..	..	..	..	..	..	..	..	..
Criminal and Common Law,	17	16	17	11	15	10	14	12	16	16	14
Evidence and Pleading,	..	..	..	..	..	..	..	..	..	..	..
Jurisprudence and Political Economy, Arts,	..	..	12	2	9	8	12	4	9	4	5
Civil Law,	..	..	..	..	..	..	..	..	..	..	..
Constitutional, Colonial, and International Law,	..	..	..	..	..	..	..	..	..	..	..
Jurisprudence,	..	..	..	..	..	..	..	..	..	1	2
Arabic, &c.	..	..	..	..	..	..	..	..	..	1	5
Hindustani,	..	..	..	..	..	..	..	..	..	1	5
Sanskrit,	..	..	..	..	..	..	..	..	..	..	3

* No Arts Class made this Session, owing to change of Statutes.
† Not now required in third year Arts.
‡ No Engineering Session this Session, owing to change of Statutes.

APPENDIX, No. 2—*continued.*

RETURN of the NUMBER of STUDENTS attending each CLASS in the Queen's College, Belfast, in each Year—*continued.*

CLASS.	1862, 1863.	1863, 1864.	1864, 1865.	1865, 1866.	1866, 1867.	1867, 1868.	1868, 1869.	1869, 1870.	1870, 1871.	1871, 1872.	1872, 1873.	1873, 1874.
Greek—1st year	65	60	70	55	48	43	41	37	37	32	36	40
„ 2nd „	63	44	69	49	41	19	54	11	22	10	18	18
„ Higher	7	19	12	6	4	5	6	2	11	8	10	13
Latin—1st year	85	68	78	64	60	55	44	59	37	38	43	49
„ 2nd „	60	40	51	44	40	34	37	23	35	21	20	31
„ Higher	8	6	6	2	3	5	4	2	2	3	4	2
The English Language	85	70	69	67	49	46	43	44	37	36	37	46
„ 2nd „	6	6	4	4	5	9	6	12	5	12	19	18
English Literature	41	52	48	42	52	41	32	39	30	39	27	23
Modern Languages (French, Ger-	110	99	110	115	109	115	96	94	92	98	95	102
man, Italian, „	43	26	36	32	46	33	32	32	37	30	54	38
Junior												
The Celtic Language	*The Lecturers in each Session were the same*					*Open to the Public.*						
Mathematics—1st year	102	85	92	73	69	55	57	44	50	46	57	
„ 2nd „	15	20	17	19	19	34	22	17	10	9	13	
„ Higher	5	6	4	4	6	33	7	8	8	4	2	
Nat. Philosophy—Higher Class												
„ Mathematical Physics, &c.	72	59	69	68	56	51	66	53	46	52	31	39
„ Experimental Physics	64	95	87	129	104	90	85	72	86	80	78	102
Natural Philosophy applied	5	2	6	13	11	9	9	9				
Chemistry	89	91	83	95	91	100	84	64	106	108	95	109
Practical Chemistry	24	28	44	37	41	51	41	30	64	49	45	41
Jurisprudence,	16	8	14	16	16	10	17	15	16	17	16	19
Zoology	68	90	53	84	72	83	75	51	75	73	73	78
Botany	62	90	92	37	66	64	71	82	59	60	61	62
Physical Geography	1											
Logic	66	57	49	48	42	49	51	40	40	29	32	31
Metaphysics	34	40	40	41	39	29	33	30	30	16	18	22
Higher Logic	9	4	14	34	22	21	16	15	5	7	6	12
Mineralogy and Geology	10	12	14	13	3	11	6	10	5	8	6	9
Engineering, 2nd year — lectures	15	3	5	14	13	8	12	11	1	13	6	8
Engineering, 2nd year — practice	12	5	4	3	10	4	7	6	8	2	2	2
Engineering, 3rd year — lectures	5	1	4	19	10	8	4	5	6	7	3	4
Engineering, 3rd year — practice	3	7	7	7	5	5	10	5	3	9	3	1
Practice of Agriculture												
Diseases of Farm Animals												
Medical Jurisprudence	16	25	30	28	35	33	35	34	41	37	38	45
Anatomy	27	24	37	39	109	127	130	117	142	136	154	113
Practical Anatomy	24	21	30	44	119	140	157	169	162	104	148	104
Practice of Medicine	27	36	44	48	67	70	57	59	68	57	50	59
Practice of Surgery	37	43	48	55	57	61	73	61	72	55	81	64
Materia Medica	37	29	35	47	47	38	46	48	50	43	52	47
Midwifery	12	16	22	34	53	66	63	51	61	60	50	68
Law of Property												
Equity and Bankruptcy	12	12	14	19	13	23	17	24	27	23	28	27
Common and Criminal Law,												
Evidence and Pleading												
Political Economy, Arts,	11	10	11	19	14	16	9	15	14	13	21	16
Civil Law : Constitutional,												
Colonial, and International	11	10	11	19	16	11	14	21	23	14	26	11
Law : Jurisprudence,												
Anatomy	12											
Surgery	23											
Operative Surgery	12	13	13	14	18	23	21	23			23	36

Appendix,
No. 3.

Return of amount of Fees.

RETURN of the AMOUNT of FEES received by each

Professor of	1849–50.	1850–51.	1851–52.	1852–53.	1853–54.	1854–55.
	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.
Greek,	*30 10	33 0	64 0	27 5	38 5	44 5
Latin,	*73 15	79 0	50 10	31 5	38 5	44 5
English History and Literature,	50 5	50 5		47 10	31 5	43 5
Logic and Metaphysics,	6 0			§50 5	34 5	37 15	41 6
Mathematics,	16 15	97 10	69 15	43 6	34 10	59 0
Natural Philosophy,	79 5	70 15	99 10	47 0	73 15	76 15
Chemistry,	88 5	104 0	117 5	*81 10	111 10	131 15
Practical Chemistry, Anatomy and Physiology,	143 0	170 0	195 15	236 10	226 0	250 0
Practical Anatomy,						
Natural History & Botany,	26 10	39 0	70 15	50 15	55 0	76 15
Modern Languages,	97 0	84 0	63 0	50 0	41 0	45 0
Mineralogy and Geology,		7 10	24 15	17 15	26 15	16 0
Jurisprudence and Political Economy,	20 0	21 0	33 15	18 15	20 0	14 10
English Law,	32 0	29 0	27 0	32 0	30 0	16 0
Civil Engineering,	16 0	24 10	22 0	14 0	17 15	21 0
Agriculture and Medical Jurisprudence,	15 10	41 0	49 5	22 0	46 0	33 15
Practice of Medicine,	17 0	31 0	32 0	10 0	30 0	30 0
Surgery,	41 0	21 10	80 0	21 0	43 0	43 0
Materia Medica,	23 0	28 0	26 0	21 0	30 0	33 0
Midwifery,	28 0	18 0	22 0	27 0	31 0	30 0
Teacher of Drawing,						

Professor of	1861–62.	1862–63.	1863–64.	1864–65.	1865–66.	1866–67.
	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.
Greek,	*186 0	†187 15	†221 0	231 10	212 0	182 0
Latin,	183 0	115 15	211 0	229 10	202 0	167 0
English History and Literature,	155 10	164 5	163 10	162 10	131 10	143 10
Logic and Metaphysics,	106 5	126 10	177 10	143 0	183 10	184 10
Mathematics,	162 5	211 5	201 0	266 0	172 0	157 0
Natural Philosophy,	170 15	194 10	183 0	195 0	200 0	198 0
Chemistry,	195 15	210 0	213 10	294 10	283 0	277 10
Practical Chemistry, Anatomy and Physiology,	‡432 10	‡425 10	‡453 10	507 10	544 0	643 14
Practical Anatomy,						
Natural History & Botany,	96 10	120 5	157 0	170 0	144 0	151 0
Modern Languages,	319 5	276 15	253 0	276 0	247 0	266 0
Mineralogy and Geology,	16 5	24 10	42 0	58 0	41 0	35 0
Jurisprudence and Political Economy,	23 15	37 10	38 0	51 0	51 0	46 0
English Law,	22 0	21 0	18 0	20 0	28 0	23 0
Civil Engineering,	40 15	70 0	89 0	97 0	79 0	68 0
Agriculture and Medical Jurisprudence,	*25 0	†712 15	†48 0	55 0	63 0	47 0
Practice of Medicine,	64 10	40 0	50 0	74 0	77 0	103 0
Surgery,	84 12	56 15	71 0	62 5	94 0	137 0
Materia Medica,	63 0	70 0	50 0	68 0	42 0	68 0
Midwifery,	32 0	31 0	35 0	46 0	50 0	69 0
Teacher of Drawing,						

* In the Session of 1849–50, Medical Students were required to attend the Greek and Latin Classes, but have since been exempt from attending either class.

† Best fee for Sanskrit and Hindustani, 1852–53, £25; 1859–61, £22 10s.; 1861–62, £20;
1862–63, £22 10s.; 1863–64, £20; 1864–65, £20.

‡ Besides for Arabic in 1858–60, £2.

No. 3.

Professor in the Queen's College, Belfast, in each Year.

1855-56	1856-57	1857-58	1858-59	1859-60	1860-61	Professor of
£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	
51 15	44 15	43 15	78 0	§98 5	†131 15	Greek.
41 15	33 15	53 0	67 0	‖90 0	127 15	Latin.
42 5	43 15	57 10	69 0	94 15	117 5	English History and Literature.
41 15	48 5	46 15	68 10	39 0	58 10	Logic and Metaphysics.
66 10	62 15	69 10	97 10	139 10	130 10	Mathematics.
59 10	62 15	72 0	60 10	61 5	130 10	Natural Philosophy.
105 10	133 0	113 10	147 5	184 0	167 0	{ Chemistry. Practical Chemistry.
286 0	181 0	206 0	262 10	307 0	427 10	{ Anatomy and Physiology. ‖ Practical Anatomy.
89 10	56 0	32 10	105 5	94 10	70 0	Natural History & Botany.
74 0	86 0	96 0	129 0	159 10	277 0	Modern Languages.
12 10	37 0	20 5	21 15	24 15	11 10	Mineralogy and Geology.
29 5	22 10	81 15	28 10	36 10	26 10	Jurisprudence and Political Economy.
51 0	27 0	21 0	25 0	28 0	28 0	English Law.
13 10	27 0	22 0	23 15	24 15	23 0	Civil Engineering.
26 0	25 10	40 5	31 5	47 0	43 0	{ Agriculture and Medical Jurisprudence.
56 0	43 10	26 0	37 0	44 0	37 0	Practice of Medicine.
74 0	42 10	34 0	46 0	63 10	79 15	Surgery.
45 0	29 0	34 0	33 0	50 0	60 0	Materia Medica.
44 0	24 0	28 0	28 0	25 0	48 0	Midwifery.
	32 0	26 0				Teacher of Drawing.

1867-68	1868-69	1869-70	1870-71	1871-72	1872-73	1873-74	Professor of
£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	
121 0	127 0	109 0	114 0	103 0	104 0	159 0	Greek.
132 0	135 0	154 0	132 0	100 0	119 0	149 0	Latin.
130 10	107 10	121 0	123 0	102 0	98 0	100 10	English History and Literature.
140 10	133 10	117 0	96 10	70 0	71 10	88 0	Logic and Metaphysics.
135 0	182 0	148 0	117 0	103 0	107 0	123 0	Mathematics.
192 0	189 0	177 0	164 0	187 0	164 0	208 0	Natural Philosophy.
209 0	284 10	249 10	276 0	324 0	309 10	826 10	{ Chemistry. Practical Chemistry.
632 3	731 18	892 1	697 17	706 10	749 12	725 5	{ Anatomy and Physiology. ‖ Practical Anatomy.
166 13	133 0	104 0	142 0	128 0	136 0	135 0	Natural History & Botany.
226 5	248 5	255 0	226 0	244 0	248 0	234 0	Modern Languages.
20 0	7 0	16 0	29 0	12 0	19 0	20 0	Mineralogy & Geology.
37 0	40 0	56 0	65 0	39 0	54 0	73 0	{ Jurisprudence in Political Economy.
35 0	31 0	43 0	56 0	34 0	58 0	60 0	English Law.
70 0	78 0	66 0	61 0	60 0	47 0	64 0	Civil Engineering.
35 0	43 0	48 0	13 0	77 0	77 0	64 0	{ Agriculture and Medical Jurisprudence.
103 0	92 0	96 0	103 0	94 0	87 0	99 0	Practice of Medicine.
144 0	131 0	115 0	134 0	113 0	127 0	128 0	Surgery.
71 0	73 0	55 0	45 0	65 0	36 0	61 0	Materia Medica.
73 0	95 0	79 0	79 0	84 0	74 0	54 0	Midwifery.
							Teacher of Drawing.

§ Professor M'Cosh was appointed in Session 1851-52, and taught and received fees from Students properly belonging to the previous Session.

‖ The Professor of Anatomy pays to his Demonstrator a portion of the fees for Practical Anatomy.

** No endowment for Medical Jurisprudence. Professor Hodges delivers the lectures, receiving only class fees.

JOHN WYLIE, *Bursar.*

APPENDIX, No. 4.

ACCOUNT of the EXPENDITURE of ONE YEAR'S ADDITIONAL GRANT to the Queen's College, Belfast, ending 31st March, 1873.

	£ s. d.	£ s. d.
1. Library of Ancient and Modern Literature and Philology:		
Ancient Classical Languages and Philology	19 12 10	
English History and Literature	21 16 0	
Foreign Modern Languages	13 17 7	
Works of General Interest, &c.	72 7 10	127 14 3
2. Libraries, Museum, &c., Mathematical, Physical, and Chemical Sciences:		
Mathematical and Physical Libraries	21 18 8	
Chemical Library	15 8 4	
Museum and Cabinet of Physical Science	33 17 9	
,, Laboratory, Chemical Science, &c.	40 5 5	111 10 2
3. Libraries, Museum, and Collection of Objects of the Department of the Natural Sciences:		
Library of Natural History, and Geology and Mineralogy	24 18 8	
Museum of Natural History, and Geology and Mineralogy	62 10 1	87 8 9
4. Libraries, Museums, and Collections of the Department of Engineering:		
Library of Engineering	6 8 9	
Instruments and Collections of Engineering	5 15 6	12 4 3
5. Museum and Library of Medical Science:		
Library of Medical Works	34 16 10	
Anatomical and Pathological Museums, &c.	57 3 3	
Surgical Museum, &c.	4 0 0	
Medical Jurisprudence	12 10 2	
Midwifery	1 0 0	
Prac. of Medicine, &c.		109 16 3
6. Library of Metaphysical, Legal, and Economical Science:		
Law, Jurisprudence, and Political Economy	25 8 3	
Metaphysics	18 12 2	44 0 5
7. Printing, Stationery, Advertising, Postages, Office Expenses, &c.	—	333 19 0
8. Heating and Lighting	—	159 17 2
9. Grounds	—	88 13 2
Balance in Bank of Ireland Office, 31st March, 1873	—	334 10 2
Total		1,479 13 7
Amount of One Year's Additional Grant,		1,000 0 0
College and Matriculation Fees		116 14 6
Balance in Bank, 31st March, 1872,		362 19 1
Total		1,479 13 7

The Accounts of the College up to 31st March, 1873, have been examined and found correct by the Commissioners for Auditing the Public Accounts.

May, 1874.

JOHN WYLIE, *Bursar.*

GENERAL CLASS EXAMINATIONS, QUEEN'S COLLEGE, BELFAST.

	SESSION 1872-73			SESSION 1873-74		
The English Language	Saturday,	January 11		Saturday,	January 10	
Logic	Saturday,	February 1		Saturday,	February 14	
Mineralogy and Geology, and Physical Geography				Friday,	February 20	
Mathematics	Tuesday,	January 14	11—1	Saturday,	January 24	11—1
Metaphysics	Saturday,	February 8		Friday,	February 27	
English Literature	Tuesday,	April 8	10—12	Wednesday,	April 1	11—1
History	Saturday,	April 12		Tuesday,	April 7	
Practical Anatomy	Saturday,	April 12	11—1	Saturday,	April 4	11—1
Anatomy and Physiology	Monday,	April 14		Monday,	April 6	
Practice of Medicine	Tuesday,	April 15		Tuesday,	April 7	
Modern History	Tuesday,	April 8		Wednesday,	April 1	
Practice of Surgery	Wednesday,	April 16		Wednesday,	April 8	
Chemistry	Thursday,	April 17		Thursday,	April 9	
Greek (First Year)	Thursday,	April 10	10—12	Tuesday,	April 7	
(Second Year)	Friday,	April 11		Friday,	April 3	
Natural History	Wednesday,	April 16		Friday,	April 3	
Natural Philosophy	Thursday,	April 17	11—1	Thursday,	April 9	11—1
Mathematical Physics	Thursday,	April 17		Tuesday,	April 7	
Mathematics	Friday,	April 18		Monday,	April 6	
Materia Medica	Friday,	April 18		Friday,	April 3	
Midwifery, etc.	Saturday,	April 19		Saturday,	April 4	
Modern Languages	Saturday,	April 19		Saturday,	April 4	

General Examination of Students in Law and in Political Economy, and of Students attending Senior Classes—Botany, Practical Chemistry, Medical Jurisprudence, Midwifery and Hygiene—at the close of the Lectures respectively.

APPENDIX,

Return of the Number of Lectures delivered by each

	1860, 1850.	1850, 1851.	1851, 1852.	1852, 1853.	1853, 1854.	1854, 1855.	1855, 1856.	1856, 1857.	1857, 1858.	1858, 1859.	1859, 1860.	1860, 1861.	1861, 1862.	1862, 1863.
Professor of— Greek, . . .	135	232	244	246	236	240	234	235	256	350	500*	450*	400*	350*
Latin, . . .	162	197	316	221	189	196	232	230	250	275	396	234	234	234
History and English Literature, .	35	55	96	91	104	100	105	105	99	110	123	92	154	146
Modern Languages,	208	330	324	307	306	305	319	340	369	307	540	372	372	380
Celtic, . . .	6	6	, 6	6	6	6	6	6	6	6	6	6	6	6
Mathematics, . .	135	256	333	248	246	330	346	322	330	400	400	370	370	316
Natural Philosophy,	122	257	233	209	256	250	255	307	300	300	342	242	213	182
Chemistry, . .	134	156	137	129	132	130	136	142	140	132	132	132	132	132
Practical Chemistry	36	36	36	36	36	36	36	36	34	36	36	36	36	36
Natural History, .	120	120	133	137	139	138	142	140	143	140	140	140	140	140
Mineralogy and Geology, . *Public*	86	54	59	54	55	49	59	52	52	52	52	52	52	
Logic & Metaphysics			77	143	176	175	164	177	179	167	140	158	194	208
Civil Engineering, .	134	138	140	136	140	136	147	118	100	194	196	220	198	238
Agriculture, . .	172	206	208	212	209	213	218	186	190	166	166	156	156	50
Anatomy and Physiology, . .	115	116	115	115	114	115	117	113	115	115	115	112	108	108
Practice of Medicine,	93	93	92	92	93	94	94	85	75	95	95	95	95	96
Practice of Surgery,	93	94	93	91	91	92	94	94	94	94	94	94	94	93
Materia Medica, .	92	91	91	93	90	92	80	*84	84	84	84	84	84	
Midwifery, . .	92	92	92	91	90	93	93	93	95	90	80	60	75	
English Law, Jurisprudence & Political Economy, .	24	48	72	96	96	96	6	96	96	72	72	96	96	
	24	48	96	120	120	120	120	120	120	120	120	120	120	

The above Return gives the number of Meetings of one hour each, in each Class. The system
course ; in some classes these examinations are held daily ; in others on fixed days of the week.
The Professors also conduct the General Scholarship Examinations ; and some of them, in

     * Including about 110 on

No. 6.

Professor in the Queen's College, Belfast, in each YEAR.

1863, 1864.	1864, 1865.	1865, 1866.	1866, 1867.	1867, 1868.	1868, 1869.	1869, 1870.	1870, 1871.	1871, 1872.	1872, 1873.	1873, 1874.	REMARKS.
350	350	350	350	340	300	300	300	300	300	300	
230	324	324	324	319	319	320	320	320	320	390	
140	167	167	167	148	148	148	150	150	150	150	Besides correcting about 650 exercises.
356	356	406	406	406	406	400	400	400	400	400	
											Open to the Public without charge.
325	330	317	317	298	296	296	300	300	300	300	Besides three hours each week on which the Senior Scholar meets the Junior Division.
180	180	190	280	288	288	300	300	300	300	300	In addition, arranging apparatus, which occupies as much time as the lectures.
130	130	130	130	130	130	130	130	130	130	130	In addition, superintending the working pupils, of whom from eight to twelve are admitted each year by examination to the laboratory without charge.
36	36	55	55	55	55	55	55	55	55	50	
140	140	140	140	140	140	140	140	140	140	140	Including lectures in Physical Geography, delivered free to all students.
52	52	52	52	52	52	52	52	52	52	52	In addition, daily attendance as Curator in the Museum.
195	195	195	195	195	195	195	195	195	195	195	In addition, criticising very many essays in each session.
319	236	247	247	247	247	247	250	250	250	250	Including practical work under the direction of the Professor.
50	50	41	41	35	35	35	35	35	34	34	Including lectures on Medical Jurisprudence, for which there is no salary.
224	261	260	260	260	260	260	260	260	260	260	In addition, daily practical teaching in the dissecting-room for three hours by the Professor, and four hours by his assistant.
95	95	95	95	95	95	95	95	95	80	80	
93	93	93	93	93	93	93	93	93	83	83	Besides about twenty-five lectures each session on Operative Surgery.
84	84	84	84	80	80	80	80	80	77	77	
76	76	76	76	76	76	76	76	76	44	44	Besides practical instruction to students which may be required at any hour throughout the year.
96	96	96	96	96	96	96	96	96	96	96	No third year Class in 1859-60, or fourth year Class in 1860-61.
120	120	120	120	120	120	120	120	120	120	120	

of instruction includes, not merely formal Lectures, but also examination in the business of the
according to the nature of the subject.
¹addition, the Matriculation and Supplemental Examinations.
²Sanskrit and Hindostani.

October Examinations of Queen's College, Belfast, 1878.

Days.	Hours.	First Year Students	Third Year Students	French Year Students
Tuesday, Oct. 22.	9—11	Greek, &c.	Math.—Mod. Lang., Math., Junior School.—Greek.	Senior School.—Greek.
	11—1		Chem.—Greek, Latin, English.	Junior School.—Latin.
	2—4	Greek, &c.—Greek, Latin, English.	Engl.—Greek, Latin, Engl.	Senior School.—Latin.
Wednesday, Oct. 23.	9—11	Latin, School.—Greek.		Senior School.—Greek.
	11—1	Greek, School.—Greek.		Junior School.—Latin.
	2—4	Hist. School.—Greek.		Senior School.—Chem.
Thursday, Oct. 24.	9—11	Mod. Engl. School.—Greek.		Junior School.—Chem.
	11—1	Math.—Math.		Senior School.—Chem.
Friday, Oct. 25.	9—11	Math.—Greek, Latin.		Senior School.—Mod. Hist.
	2—4			Junior School.—Hist.
Saturday, Oct. 26.	9—11	Nat.—English, Mod. Hist.		Senior School.—Nat. Phil.
	2—4	Physics.		Junior School.—Nat. Phil.

Monday, Oct. 24.	8—10 10—12	Rules of Undetermined Electors to be made out.	Math. School—History.	Engld. School—Latin.	Honor School—Nat. Phil. Math. School—Greek.
	12—2	Latin School—Math.	Science School—Math.	Engld. School—Greek.	Junior School—Math.
	2—4		Math. School—Latin.	Mod. School—Arml. and Physu.	Med. School—Chem. Mod. School—Greek.
Tuesday, Oct. 25.	8—10		Science School—Math.		
	10—12	Latin School—Math.		Engld. School—Math.	Senior School—Math.
	12—2		Math. School—Latin.	Med. School—Anat. and Physio.	Honor School—Nat. Phil.
	2—4				Mod. School—Pure Math.
Wednesday, Oct. 26.	8—10 10—12	School—English.	Engld. School—Latin.		
		School—Latin.	Logic, School—Phys.	Med. School—Nat. Phil.	
Thursday, Oct. 27.	8—10 10—12	Latin School—English.	Mod. School—Latin.		
				Latin. Engld.—Latin. Engld.—Latin, Greek.	Senior School—Nat. Phil. Junior School—Math.
	2—4		Latin, School—Greek.	Mod. School—C. Engld.	
Friday, Oct. 28.	8—10 10—12	Latin School—English.	Latin. School—Greek.		
				Latin. School—Anat.	
	2—4				School—Physiology.

Students passing the Supplementary Examinations complete the previous year, and enter rank accordingly.

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HISTORY OF LECTURES—SESSION 1873-74.

Hours.	Arts.			Civil Engineering.			Surveying.		
	1st Year	2nd Year	3rd Year	1st Year	2nd Year	3rd Year	1st Year	2nd Year	3rd Year
A 9 to 10	French. Monday Tuesday Wednesday Thursday Friday	French. Monday Tuesday Wednesday Thursday Friday		Mechanics. Monday Wednesday Friday	Mechanics. Monday Wednesday Friday				
B 10 to 11	Mathematics. Monday Tuesday Wednesday Thursday Friday	French. Monday Tuesday Wednesday Thursday Friday	Greek Monday	Mathematics. Monday Tuesday Wednesday Thursday Friday					
C 11 to 12	Latin. Monday Tuesday Wednesday Thursday Friday	Mathematics. Monday Tuesday Wednesday Thursday Friday	Nat. Phil. Monday Tuesday Wednesday Thursday Friday	Nat. Phil. Monday Tuesday Wednesday Thursday Friday	Nat. Phil. Monday Tuesday Wednesday Thursday Friday	Office and Field Work Monday Tuesday Thursday	*Exp. Phys.* Tuesday Thursday	*Prac. Chem.* Monday Tuesday Wednesday Thursday Friday	*Prac. Chem.* Monday Tuesday Wednesday Thursday Friday
D 12 to 1	Greek. Monday Tuesday Wednesday Thursday Friday	Latin. Monday Tuesday Wednesday Thursday Friday	Metaphysics. Monday Tuesday Wednesday Thursday Friday Saturday	Chemistry. Monday Wednesday Friday	Office and Field Work Monday Tuesday Thursday	Office and Field Work Monday Tuesday Thursday	Drawing		

Anatomical Demonstrations.
Monday
Tuesday
Wednesday
Thursday
Friday

SUMMER CLASSES, COMMENCING MAY 1, 1876.

FACULTY OF LAW.—HOURS OF CLASSES.

APPENDIX, No. 7.

An ENLARGED DIGEST OF SUBJECTS and COURSES pursued in Queen's College, Belfast.

GREEK.—*Professor, Charles MacDouall, LL.D., M.R.A.S.*

In the Greek Class, as in all those which are attended during more than one session, the business, as well as the hours assigned to the Students of the different years, is necessarily different; but it is always distributed into three simultaneous processes, viz., public examinations, lectures more or less formal, and exercise written at home and commented on in the class.

In the first session, the complex and self-sustained structure of the Greek language is subjected to a close analysis; carried out, on the one hand, by tracing words to their crude forms; by classifying terminations, both the primary and the flexional, and by discriminating among analogically correct forms those actually used in different ages and dialects; on the other hand, by exhibiting the method by which words are combined in single clauses, clauses are knit into sentences, and sentences compose periods less or more complicated. Some processes which furnishes the materials for this analysis; while the Students read and translate it, or else re-translate at chosen passages read out in English before them by the Professor. Besides syntactical phenomena, the laws and characteristics of both epic and dramatic versification are expounded and exemplified, while a portion of the *Ilias* and some tragedy are used as text-books.

In the second session, which consecutive passages of Herodotus along with some Attic oration or philosophical treatise, and a portion of the *Odyssea* along with some Attic tragedy or comedy, form the basis of prelections, the previous discipline is continued and extended; the distinctions of dialect and style are more fully elucidated; the origin, growth, and fortunes of the epos, the drama, history, and other departments of literature, are more distinctly unfolded; discussions on points of mythology, geography, chronology, archæology, antiquities, &c., are more freely introduced and more amply treated. The Students are invited to turn Herodotean Greek, at sight, into Attic, altering both the forms of words and the structure of sentences; to re-translate passages into Greek prose and verse; and also to give in original essays in both forms of composition.

In addition to higher class, advanced Students, generally in the third or fourth year of their Course, are exercised in the study of more difficult works than those previously read, in the higher problems of criticism and philology, and especially in composing both prose and verse.

The following Text-books have been used in the successive Sessions of College from 1849–50 to 1872–3:—The *Ilias*, all the Books except I., II.; the *Odyssea*, Books I. to XX. (inclusive); Hesiodus, *Theogonia*; Pindarus, *Olympia, Pythia, Nemea*; Æschylus, all the Tragedies except the *Supplices*; Sophocles, the seven Tragedies; Euripides, all the Plays except the *Cyclops*; Aristophanes, *Nubes, Aves, Ranæ*; Herodotus, portions of Books I., II., III., IV., VII., VIII., IX.; Thucydides, Books I., II., VI., VII.; Xenophon, portions of *Anabasis, Memorabilia Socratis*, and *Cyropaedeia*; Plato, *Apologia Socratis, Gorgias, Phaedon, Phaedrus, Philebus, Protagoras, Theaetetus, Timaeus, Menon*, and Books I., II., VII., and X. of *Respublica*; Aristoteles, *Poetica* and portions of *Rhetorica*; Demosthenes, *c. Meidiam* and *de Corona*; Æschines, *in Clesiphontem*.

The SANSKRIT and HINDUSTANI CLASSES, conducted during six Sessions by the Professor of Greek, have been discontinued.

LATIN.—*Professor, William Nesbitt, M.A.*

The Professor of Latin gives three lectures weekly to Students of the First, and the same number to Students of the Second Year, attendance upon which is compulsory for all that take the Latin Classes. Besides these extempore lectures, he gives two lectures additional to Students of each of these years, and attendance on which is voluntary, in which more difficult authors are read, and special attention is paid to composition. Th' attendance on these lectures is very good. That on the general classis reaches, in the first two terms, a daily average of perhaps 90 per cent. of those enrolled: the voluntary classes are, this year, attended by about two-fifths of the Students of the First, and one-third of the Students of the Second Year.

An honor Class has been formed of Students of the Third and Fourth Years, chiefly attended by those who are anxious to distinguish themselves in Ancient Classics at the Degree Examination.

The Professor lectures thirteen hours each week throughout the Session, extending, with short intervals at Christmas and Easter, from the beginning of November to the beginning of June.

The proficiency of the Students depends, of course, to a considerable extent, upon their preparation at entrance. It has been the aim of the Professor, without fixing any fancy standard, to make the matriculation examination as strict as is consistent with the state of intermediate education in the province. Several important schools, he is happy to say, have been called into existence by the influence of the Queen's College, and many more have been largely benefited, as well by its reflex action as by the large number of efficient teachers that it has supplied. Still this department of our educational system remains in a very unsatisfactory condition, and its organization—a work far beyond the reach of private enterprise—is confessedly the great desideratum of educational reform. At present, the practical requirement of this College in the Latin language from candidates for matriculation is that they should be able to read aloud a portion of a Latin author, in such a way as to retain the attention of the class; and this requirement it fairly met. Members of the class must, at each lecture, when called upon by the Professor—and all are called upon without any fixed order—translate into English a portion of the book which forms the subject of the term, and render into Latin an easy exercise.

In this way pass Students of the first year are expected, during the session, to get through some such course as this:—A book of Livy, the Catilinarian Orations, and, if possible, one of the shorter philosophical treatises of Cicero; while those that attend the voluntary class read, in addition, say, two books of the Georgics of Virgil, together with selections from Terence and Juvenal; and no Students are allowed to rise to the Second Year who fail to pass a satisfactory examination in at least the subjects of the pass course.

In the Second Year, pass men read with great care, under the same conditions as are observed in the First Year, some such course as this:*—Three books of Cicero's Letters, and as many of Horace's Satires as can be got through, continuing their efforts to attain, if not elegance, at least grammatical correctness in writing easy Latin; while the members of the Voluntary Class are expected, in addition, say, to complete the Georgics of Virgil, and to read a part of the Epistles of Horace, with selections from the Annals of Tacitus.

At the end of the Second Year pass men have completed their Latin studies, and having passed the first examination in Arts at the University, are set free to pursue for their degree studies for which they have more special aptitude.

The Third Year's Latin Class is therefore strictly an Honor Class, and its members read as many of the authors prescribed for classical honors at the University as can be brought within the limits of the Session. Last year the books read were the Pro Cluentio of Cicero, with selections from the Histories of Tacitus, from Plautus, and from Lucretius.

During the whole Session, passages such as are set at Honor Examinations are rendered into Latin by the members of the Voluntary and Honor Classes, and their versions are carefully corrected by the Professor at home, and made the subject of comment in the class. Latin philology is studied with the aid of the excellent text books of Roby and Peile.

* I take as an example the actual course of the present year.

The Professor has made his *résumé* by the desire of the President, who thinks it due to the Legislature and the public that, at a time when so much laxity of statement is indulged in, an authentic account of the work of the College should be furnished by those to whose hands its teaching has been committed. If the Professor may be permitted to state his impression as to the results of that teaching, he would say that the attainments of the pass men—as might be expected from their punctual attendance upon lectures, and their very commendable diligence, are higher than those of the corresponding class in the University with which he is most intimately acquainted,—the University of Dublin; while the attainments of honor men, who usually start from a much lower level, fall considerably short of those of the best men in that University. They may be represented by high distinction at such examinations as that for the Civil Service of India.

HISTORY AND ENGLISH LITERATURE—*Professor, Charles Duke Yonge, A.M. Oxon.*

Class of the English Language.

The business of this Class is conducted by—

A Course of Lectures on the Origin, Formation, Inflections, and Grammar of the English Language, for which Dr. Latham's "English Language" forms in some degree the text-book ;

With occasional Lectures on the rules and principles of Prose Composition, and Weekly Essays.

Class of English Literature.

The business of this Class is conducted by—

A Course of Lectures on English Literature in general, and particularly on the lives, works, and styles of the best authors in each department;

With Special Lectures also on the works appointed as the subjects for the Dublin Autumnal Examination of the ensuing year, with and without Honors ;

And Fortnightly Essays.

Class of History.

The business of this class is conducted by—

Lectures on History in general ;

Lectures on English History, embracing rather the *larger half* of the entire course ;

A subsequent course on the History or that portion of the History of any other country which is selected as a subject for the Dublin Autumnal Examination of the ensuing year.

MODERN LANGUAGES—*Professor, Albert Ludwig Meissner, ph.d.*

The instruction in Modern Continental Languages embraces three courses each for French and German, extending over three terms, and a course of Italian during the first two terms, attendance on which is voluntary.

No entrance examination is as yet held in Modern Languages, in consequence of which the insufficiency of intermediate teaching is more apparent in this department than perhaps in any other. The consequence of this is, that the Professor is over-burdened with a great amount of elementary teaching, without which his classes cannot be kept in good working order. The number of lectures delivered during the past session was no less than 406. Something, it is hoped, may be done to relieve the Professor of some part of the elementary teaching, so as to increase his usefulness in the more advanced classes.

Students in Arts and Medicine, and in the department of Engineering, are required to attend lectures on one Modern Language for one session. The majority select for this purpose the French language ; several, however, attend both French and German. For Students in Arts of the second and higher years, Modern Languages form one in a group of four subjects, out of which they select two.

The work of the classes, especially during the first two terms, is carried on to a great extent by means of *vivâ voce* questions and answers. Frequent oral

examinations are held, and at each meeting of the classes a passage is translated from English into French or German.

In the First Session the grammar and the principles of composition are explained, and select passages are translated from French and German Classics.

In the Second Session a systematic course of composition is gone through, and the Students are made acquainted with the principal authors of French Courses. and German Literature.

In the Third Session a course on the elements of Comparative Grammar is delivered, which is followed by a course on some period of Continental Literary History. The students write essays in Modern Languages, which are read and discussed in the class.

Medical Students unable to attend the classes in Arts, are instructed in a separate class.

About six per cent. of the Students attending Lectures on Modern Languages are Non-Matriculated.

MATHEMATICS—*Professor, John Purser, M.A.*

Attendance on this Class is prescribed to all Students in the Faculty of Arts during the first year of their Course; during the second year Mathematics forms one of four Courses, out of which the Students select two.

All Students in the Department of Engineering are required to attend the Mathematical Classes during two years.

Before entering, Students are required to pass an examination in the First and Second Books of Euclid, and in a small portion of Algebra. Practically they come fairly prepared in the prescribed portions of Euclid, but a large proportion can hardly be said to possess even an elementary knowledge of Algebra. A considerable number of the Students are Candidates for Mathematical Scholarships at entrance, and these are generally well prepared in the first six Books of Euclid, and a considerable portion of Algebra and Plane Trigonometry.

On this account the instruction of the First Year in Mathematics has been given in two Divisions. The Lower Division is carefully taken through such portions of Euclid I., II., III., IV., VI, as they have not previously prepared, and is instructed in Algebra as far as the progressions, and in Plane Trigonometry as far as the solution of triangles, with the use of logarithms and trigonometrical tables. In the Upper Division a more advanced course of lectures is given in Geometry, Plane Trigonometry, and Algebra, to which is added either the Conic Sections, treated geometrically, or Spherical Trigonometry.

The Council has sanctioned the employment of the Senior Mathematical Scholar in giving a portion of the instruction of the Lower Division. This arrangement, while it affords a greater number of hours to the Lower Division, enables the Professor of Mathematics to give more attention to the Upper Division, and has been found to work very satisfactorily.

In the Second Year the subjects of Lecture are Analytical Geometry, the Differential and Integral Calculus, and the first three sections of the Principia of Newton.

In the Third Year an Honor Course is given, in which are taught the higher branches of the Calculus, Geometry of Three Dimensions, and Differential Equations.

NATURAL PHILOSOPHY—*Professor, Joseph David Everett, M.A., D.C.L.*

The Classes in this Department are arranged under the three heads of Experimental Physics, Mathematical Physics, and Natural Philosophy Applied.

All Students in the Faculty of Arts in their Second Year attend the Classes of Experimental and Mathematical Physics. Engineering Students attend the Class of Experimental Physics in their First Year, the Class of Mathematical Physics in their Second Year, and the Class of Natural Philosophy Applied in their Third year. Medical Students attend the Class of Experimental Physics only.

In all these Classes the teaching is by prelection interspersed with oral examination.

The subjects treated under the head of Experimental Physics include—Properties of Matter, Mechanical Powers, the Elements of Hydrostatics and

C

Appendix,
No. 1.
Digest
of Subjects
and
Courses.

Hydraulics, Heat, Light, Sound, Electricity, and Magnetism; the leading principles in these several departments being broadly laid down and copiously illustrated by experiments.

The Course of Mathematical Physics includes a rigorous demonstration of the principal theorems in Statics and Kinetics, an explanation of the leading principles of Astronomy, Geometrical Optics, and the Mathematical treatment of numerous questions connected with the subjects of the Experimental course.

In the Class of Natural Philosophy Applied, the subjects include a more advanced course of Statics, Kinetics, and Hydrostatics, involving application of the Differential and Integral Calculus, and illustrated by practical examples, Kinematics, including the principles of Mechanism, the relations of Stresses and Strains, Moduli of Elasticity and Rigidity, Work Done, Kinetic and Potential Energy, Elements of Thermodynamics.

In addition to the above-named Classes, there is an Honor Class, attended by Senior Students, in which the subjects prescribed for University Honors are studied.

CHEMISTRY.—*Professor, Thomas Andrews, M.D., LL.D., F.R.S., M.R.I.A.*

In the Class of Chemistry the greater part of the Course is devoted to pure Chemistry; but the Elements of the Sciences of Heat and Electricity, particularly in their relations with Chemistry Proper, are also taught. The application of these sciences to the arts are particularly referred to; and it has been the constant endeavour of the Professor to communicate to the Students as precise and accurate information as possible on the subjects treated in his Lectures, and to train them to habits of careful observation and accurate thinking. With this view a weekly examination of the whole Class is held, at which the Students are subjected to a searching examination on the business of the preceding week; and further to encourage a taste for scientific inquiry, and also to train a certain number of practical chemists, a limited number of the Students are admitted, by examination, as working pupils into the chemical laboratory, where they have an opportunity of acquiring a knowledge of chemical analysis. This latter arrangement has not been in practice for several years, and has been attended with the best results.

NATURAL HISTORY.—*Professor, Robert O. Cunningham, M.D., F.L.S.*

1. The Zoological Department of the Course occupies the First Term and greater part of the Second, and comprehends an Outline of the Anatomy and Physiology, Classification, and Geographical distribution of animals.

2. The Botanical portion includes the History, Morphology, Physiology, Classification, and Geographical distribution of Plants. The Lectures are delivered during the months of May, June, and July; and in addition to them, there are weekly excursions and practical demonstrations.

The Lectures on Zoology and Botany are illustrated by numerous specimens and diagrams, and oral examinations are held once a week.

GEOLOGY, MINERALOGY, AND PHYSICAL GEOGRAPHY.—*Professor, Robert O. Cunningham, M.D., F.L.S.*

This Course includes Lectures on the Elements of the above branches of science. In the Mineralogical portion special attention is directed to those minerals which form important constituents of rocks, and those which possess the greatest economic value. The classification adopted is a chemical one.

The Geological Lectures are mainly devoted to an examination of the various strata composing the crust of the earth, and the organic remains contained in them.

The Lectures on Physical Geography include a survey of the principal phenomena of the sea, atmosphere, and land of the globe.

All three branches of the course are copiously illustrated by specimens and diagrams, and examinations are held once a fortnight.

*Appendix,
No. 7.

Digest
of Subjects
and
Courses.*

LOGIC AND METAPHYSICS—*Professor, John Park, M.A.*

LOGIC.

This class meets at 2 P.M., on Tuesdays, Wednesdays, Thursdays, and Fridays, during the First, and part of the Second Terms of the Session.

The business of the class is conducted by lectures on Logic, or the science of the conditions on which depend valid inferences and the correct expression of evidence, containing under it Formal Logic (the theory of symbolical proof), and Material Logic; by examinations on the lectures and on Fowler's "Elements of Deductive Logic," and "Elements of Inductive Logic," and by the criticism of Essays on Logical subjects, of which four are required from each Student.

Students should read Mansel's "Handbook of Logic," and Bacon's "Novum Organum," Book I., before entering the class.

METAPHYSICS.

This class meets at noon, on Tuesdays, Wednesdays, and Fridays, during the First and Second Terms of the Session.

The business of this class is conducted by lectures on Psychology, or the science which investigates the phenomena of the human mind and their conditions; into Metaphysics Proper, or the science which investigates the Nature of Truth and of Existence; by examinations on the lectures, on Mansel's "Metaphysics," and on Dr. Stirling's Translation of Schwegler's "Handbook of the History of Philosophy"; and by the criticism of Essays on Metaphysical subjects.

HIGHER LOGIC.

This class meets three times a week during the First and Second Terms of the Session, and is conducted by lectures, and a course of reading and examinations. Especial attention is paid to the subjects contained in the Degree Honor Courses of the ensuing year.

CIVIL ENGINEERING—*Professor, George Fuller, C.E.*

The Courses of lectures and practical instruction given by the Professor of Civil Engineering are arranged to accord with the Ordinances of the Queen's University, which prescribe to candidates for the Diploma in Civil Engineering a Curriculum extending over three Sessions usually, but admitting of abbreviation to two Sessions in the case of students whose previous acquaintance with a sufficient group of the subjects prescribed for study in the first and second Sessions of the ordinary Course shall be deemed by the College Council satisfactory.

For the First Year Students the Professor gives a course of instruction, comprising lectures and oral examinations on the Principles of Geometrical Drawing, and the performance by the students of practical work under his direction. The lectures include the principles of descriptive geometry, orthographic and isometric projection, and linear perspective; and the practical work comprises the performance of examples in these subjects, and the execution of drawings in Mechanical Engineering, and occasionally also in Architecture and Civil Engineering. The Class meets for two hours at a time on two days per week during the three Terms of the College Session.

For the Second Year Students two courses are conducted by the Professor of Engineering, of which one is a Lecture Course and the other a Practice Course. The Lecture Course comprises surveying, levelling, and plotting, with the theory and use of the instruments required in surveying and levelling operations; mensuration of earthworks for railways; setting out works on the ground, including ranging of railway curves, and setting out breadths of cuttings and embankments, and ranging tunnels, &c. The Course also comprises usually some of the following subjects:—revet,on and further prosecution of descriptive geometry and perspective, and other subjects of geometrical drawing; designing and drawing of oblique bridges; properties and qualities of materials used in construction, and modes of procuring them; and an introduction to architecture as a fine art.

In the Practice Course of the Second Year the Students are engaged in the performance of office and field work, under the instruction and direction of the

Professor; and the business includes surveying, levelling, drawing, mapping, and the computation of areas of lands, and other engineering calculations. Excursions are also made occasionally during the Session to visit Engineering works.

For the Third Year Students there are (as for those of the Second Year), two Courses conducted by the Professor, one a Lecture Course, and the other a Practice Course. The Lecture Course comprises the further treatment of some of the subjects proposed to be entered on in the Second Year, and more of the following subjects—foundations, cofferdams, bridges, tunnels, roads, and railways; specifications for engineering contracts; water-works for supplying towns; science of the flow of water in orifices, pipes, and canals; drainage of fens by gravitation, and by steam power and other mechanical means; regulation and improvement of rivers; science of the strength of materials and structures; ventilation of dwelling-houses, public buildings, and mines; processes and mechanisms used in foundries and engineering workshops.

The Practice Course includes office-work, field-work, and engineering excursions.

ANATOMY AND PHYSIOLOGY—*Professor, Peter Redfern*, M.D., L.R.C.S.

The Department of Anatomy and Physiology comprises two distinct Courses of Lectures—one on Anatomy and Physiology, the other on Descriptive and Surgical Anatomy, and also the teaching of Anatomy by Dissections throughout the day.

The Course of Anatomy and Physiology includes about 144 meetings, each of an hour's duration, held on the first five days of each week from November to April inclusive. These meetings are for lecture and occasional examinations on the subjects previously considered in the lectures. The lectures include a complete course of the Anatomy and Physiology of the general textures of the body, including the blood, chyle, &c., and a systematic account of the whole of the viscera, treated of as they are associated in groups for the several purposes of digestion, circulation, respiration, urination, innervation, and generation; also the organs of sense. In treating of every part or organ its healthy state is shown by recent dissections and by preparations from the Museum illustrating it in man and animals, its diseased states and actions being referred to at the same time and contrasted with the healthy ones. The textures not visible to the naked eye are shown under a series of achromatic microscopes, so that during the Course every student in the class has an opportunity of judging for himself of the true characters of each part, and, by becoming familiarised with these, of recognising each when changed by disease.

The Course of Practical Anatomy and Anatomical Demonstrations includes:—

1st. Dissections carried on throughout the day under the immediate superintendence of the Professor of Anatomy and Physiology, and the Demonstrator. Each Student is required to be specially engaged in dissections during the whole Session. For this purpose the supply of subjects is regular and abundant, and that affords the surest foundation for efficient medical teaching.

2nd. This Course includes the Anatomical Demonstrations, which consist of a complete Course of Descriptive and Surgical Anatomy, commencing with the anatomy of the skeleton and bones, and including the anatomy of the limbs and other parts, excluding that of the viscera and the physiology treated of in the Course of Anatomy and Physiology. The demonstrations are given on each of the first five days of the week, and are about 117 in number in each Session.

PRACTICE OF MEDICINE—*Professor, James Cuming*, M.D.

The class meets four times each week, from the first week of November to the last of the following April.

An examination is held usually once a fortnight. The Course embraces the principles of Inflammation, Fevers, the diseases, organic and functional, of the viscera of the three great cavities of the human body. In treating of individual diseases, their pathology, semeiology, ætiology, and treatment, are the subjects chiefly dwelt on. Wherever it is possible, pathology is illustrated by the preparations afforded by our Museum, by drawings and plates, or by recent specimens. It may be added that the Professor's present connexion with the Belfast General Hospital adds greatly to the means of making this Course more useful and interesting to students.

THEORY AND PRACTICE OF SURGERY—*Professor, Alexander Gordon, M.D.*

*Appendix,
No. 7.*

*Digest
of Subjects
and
Courses.*

Four Lectures are delivered weekly during the Medical Session. An examination is held each day on the subject of the preceding day's Lecture. Each Course comprises the following subjects:—

Inflammation,
Suppuration,
Mortification,
Erysipelas,
Burns,
Ulcers,
Wounds,
Hæmorrhage,
Diseases of the Arteries,
  ,,   Veins,
Fractures of Trunk and Extremities,
  ,,   Cranium, Injuries of the
          Brain and Scalp,
Dislocations,
Diseases of the Joints,

Diseases of the Bursæ,
  ,, Bone, benign and malignant,
  ,, the Jaws and Mouth,
  ,, the Fingers and Toes,
  ,, Female Breast,
  ,, Anus and Rectum,
  ,, Testis,
  ,, Hernia,
  ,, Prostate,
  ,, Bladder,
  ,, Eyes,
  ,, Larynx,
Syphilis,
Gonorrhœa,
Stricture.

All the capital and minor operations are performed on the dead subject. The Professor delivers a separate Course of twenty-five Lectures on Operative Surgery.

MATERIA MEDICA—*Professor, James Seaton Reid, M.D.*

This Course includes—

1st. General Pharmacology, or the modes in which medicines act upon the living organism in a state of health.

2rd. Therapeutics, or the modes in which medicines act as curative agents.

3rd. Pharmacy.

4th. Dietetics, a review of the different kinds of food used in health and in disease.

5th. Special Pharmacology, or the history, composition, uses, and modes of administering medical agents for the cure of disease.

The Class meets four times each week. An examination is held once every week.

MIDWIFERY—*Professor, Robert F. Dill, M.D.*

Lectures four times a week during the six winter months consist of following subjects:—

Anatomy of the pelvis, so much as is required for midwifery. Its measurement and perforators.

Contents of the pelvis. The functions of the uterus in its virgin state.

Conception—length of gestation—changes of the uterus and its appendages during gestation.

Growth of child from its earliest ossem form until its full parasitic size.

Graafian vesicle and corpus luteum. Fœtus, its circulation, signs of maturity, weight, and length.

Plural births.

Proportion of births and deaths of males to females.

Superfœtation.

Signs of pregnancy.

Signs of approaching labour.

Natural labour, its progress; also the positions and progress of child till its separation from its mother.

Management of natural labour, including the arrangement of the bed and bed-room, and the proper dress and posture of the patient.

Tedious labour, its causes and treatment.

Labour requiring the use of instruments; their application taught on models in the class.

Cæsarean section and Sigualtean operation—how to prevent the fœtus from getting large in uterus.

Premature labour—how to bring it on, and when it is necessary to do so.

Cross-births and their treatment.

Abortion—how to prevent it.

Extra uterine fœtations—how they occur, and their treatment.

Management of women after delivery, and treatment of such accidents and diseases as occur at this period.

Management of children after birth, washing, dressing, food, &c., and the choice of a wet-nurse, and treatment of such accidents as take place at this period, or soon after.

Practical midwifery taught by pupils attending patients in their own houses and in the Lying-in hospital, where Clinical Lectures are given.

MEDICAL JURISPRUDENCE—Professor, JOHN F. HODGES, M.D., F.C.S.

The Lectures in this Course are delivered twice weekly during six months. They include an account of the history and chemical investigation of poisons, and of the various subjects respecting which the evidence and assistance of Medical Practitioners may be required in Courts of Law. Experimental illustrations of the methods to be pursued in medico-legal inquiries are given, and frequent examinations held to test the progress of Students. No salary has been allocated to the Teacher of this department, and the duties, at the request of the Council, have, since the opening of the College, been performed by Dr. Hodges.

ENGLISH LAW—Professor, ECHLIN MOLYNEUX, Q.C.

The Course of the *First* year in this department comprehends the elements of real and personal property, with the principles of conveyancing; that of the *Second* consists of an introduction to the principles and practice of Courts of Equity and the law of Bankruptcy; the *Third* Course includes the common law as incident to contracts, the nature and form of remedies by civil action, and an outline of criminal law, theoretical and substantive. This course completes the Curriculum of instruction required for the attainment of the Diploma of Elementary Law in the Queen's University. The subjects prescribed for Students of the *Fourth* year to qualify them for the Degree of LL.B. embrace a more extended and detailed course of the subjects already enumerated, including the law of wills, powers, evidence, and procedure.

JURISPRUDENCE AND POLITICAL ECONOMY—Professor, T. E. CLIFFE LESLIE, LL.B.

The subjects embraced in the Course of Lectures on *Jurisprudence* are according to the regulations of this College, (1) The Elements of Jurisprudence, (2) Civil Law, (3) Constitutional Law, (4) Colonial and International Law.

In the treatment of these subjects both the *Historical* and *Philosophical* Methods are followed in the Lectures of the Professor. The Historical Method, for example, is applied in tracing the principal changes through which the laws of England have passed, the assignable causes of such changes, and the degree and manner in which, in comparison with the laws of Continental Europe, the laws of this kingdom have been affected by contact with the principles of Roman legislation. The method of Philosophical Analysis, on the other hand, is applied in investigating the doctrines of the foundation and classification of rights, the several parts and legitimate form of a complete code, the relation of Scientific Jurisprudence to other departments of Social Philosophy, and the means of improving the state of Positive Law as deducible from such considerations.

The subjects which a Course of Lectures on *Political Economy* must embrace are fewer and more definite than those classed under the last advanced and more complicated Sciences of Jurisprudence. It is the Professor's endeavour to illustrate the principles of Economic Science by the help of those practical applications which will be more interesting and useful in a large commercial town.

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*Appendix,
No. 8.
Matricula-
tion Exa-
mination.*

APPENDIX No. 8.

MATRICULATION EXAMINATION, OCTOBER, 1873.

ENGLISH LANGUAGE AND LITERATURE.—*Examiner,* Professor Yonge.

1. From what languages is the English language chiefly derived? Point out some instances of the influence which each of those different languages have exerted on the English language as it exists now.

2. In what points do an English verb and noun differ from a Latin verb and noun?

3. What is the difference in the qualities required from a historian and a dramatist; and, generally, from a prose writer and a poet?

4. What is meant by strong and weak verbs?

5. Give a brief analysis of any work of first-rate excellence, in either prose or poetry (a single play of Shakespeare will be sufficient) which you have lately read.

Write an Essay (not exceeding three pages) on the character of Edward I.

MATHEMATICS.—*Examiner,* Professor Purser.

ARITHMETIC.

1. Coals are thirty shillings a ton, how many pounds and ounces are there in a pennyworth?

2. A can reap a field in 13 hours, B in 11 hours; find how long the two together will take.

3. Reduce 3127 francs 52 centimes to English money. Exchange being at 24f. 46c. per pound sterling.

4. Reduce $\frac{37}{42} \cdot \frac{11}{15} \cdot \frac{49}{35} \cdot \frac{3}{10}$ to fractions having the same denominator.

Divide 135.315 by 4.85 and prove the result by vulgar fractions.

5. A ladder 30 feet high is placed against a wall, the bottom of the ladder being drawn 5 feet out from the wall, find how high the top reaches.

EUCLID.

1. Define a *triangle,* a *rectangle,* a *circle,* and a *right-angle.*

2. At a given point in a given straight line, make a rectilineal angle equal to a given rectilineal angle.

3. The complements of the parallelograms about the diagonal of a parallelogram are equal to one another.

4. In an obtuse angled triangle the square of the side opposite the obtuse angle exceeds the sum of the squares of the sides containing that angle by twice the rectangle under either of them and the interval between the obtuse angle and the foot of the perpendicular let fall upon that side from the opposite angle.

ALGEBRA.

1. Simplify the expressions:—
$(a+b+c)$ $(b+c-a)$ $(c+a-b)$ $(a+b-c)$ $x(x-2)^3-(x-3)$ $(x-1)^3$.

2. Find the greatest common measure of x^3-1 and x^3+x-2.

3. Solve the following equations :—

(a) $\dfrac{x-1}{2} + \dfrac{x-1}{3} = \dfrac{x-2}{4}$

(β) $\dfrac{x+1}{2} + \dfrac{x+2}{3} + \dfrac{x+3}{4}$

$\dfrac{x-1}{2} + \dfrac{x-2}{3} + \dfrac{x-3}{4} = 415.$

(γ) $\sqrt{1+x} + \sqrt{1-x} = \dfrac{8}{3}.$

PEEL PRIZE EXAMINATION.

GEOMETRY.—*Examiner*, Professor PURSER.

1. The rectangle under the diagonals of a quadrilateral inscribed in a circle is equal to the sum of the rectangles under the opposite sides.

2. Given a circle and a point A, a second point B can always be found such that the distance of any point on the circle from A varies as its distance from B.

3. A line is cut harmonically by the circle pole and polar.

4. Show that the side and diagonal of a square are incommensurable.

5. Four lines are drawn forming four triangles ; show that the four circumscribing circles pass through a common point.

6. Describe a circle cutting three given circles orthogonally.

7. A, B, C are three points on one line ; A', B', C' three points on another ; show that the intersections of AB' and $A'B$ of BC' and $B'C$ of CA' and $C'A$ lie in a line.

8. Draw a line across the space formed by two intersecting circles through a given point inside so that the areas of the two parts into which this space is divided shall be most unequal.

9. If $ABCD$ and $A'B'C'D'$ are two sets of four points so disposed that any two points of the first set, together with two corresponding points of the second set lie on a circle ; show that if the first set of points lie on a circle, the second set do also.

10. Find a point P in the plane of a triangle ABC such that $a.PA^2 + \beta.PB^2 + \gamma.PC^2$ may be least where a, β, γ are the areas of the triangles BCP, CPA, APB.

SCHOLARSHIP EXAMINATION, OCTOBER, 1873.

LITERARY SCHOLARSHIPS.—FIRST YEAR STUDENTS.

GREEK.—*Examiner*, Professor MAC DOUALL.

Translate the following passage from the *Cataplus* of LUCIANUS :—

ΚΛΩΘΩ. εἶτα ἐχρῆν βραδύνειν; οὐχ ἱκρὸς ὑπόσον ὁ τύραννος ὑπισχνεῖται δώσειν ἀφεθεὶς πρὸς ὀλίγον; οὐ θνῆμα τοῦ νῦν ἐγω μὲ, εἰ μὴ ἀναστηγῇ καὶ σοί ὁ δωτηρίῃ. ΜΙΚ. ἄκουσον, ὦ βελτίστη Μοιρῶν ! οὐ πάνυ με ἡ τοῦ Κλέλωπος εὐφραίνει ὁμαρά, τὸ ἐπιπριασθαί τε ἀπ' οἶνος ἐμοὶ καὶ παρ' ἐμαυτῷ · εὐφαίνω δέ με τὰ ἐπὶ νὸν πύραττον, νῦ αὐτοὶ ἀδίνως με περιπίσκουον. Ἐλλας δὲ οὐχ ἡμιν τηνφ τᾶς τῶν πλουσίων ⁈ τε παράτιρον καὶ ημὶν οἱ βίον σῶσον. ὃ μὲν γὰρ τύραννος, εὐδαίμων ἔναι δοκῶν παρὰ τὸν βίον φοβερὸς θ̅ ἅπασι καὶ περίβλεπτος, ἀπολιπὼν χρυσὸν τοσοῦτον

Appendix, No. 8.

Scholarship Examinations.

καὶ ἀργύριον καὶ ἐσθῆτα καὶ ἵππους καὶ δεῖπνα καὶ παῖδας ὡραίους[2] καὶ γυναῖκας εὐμόρφους εἰκότως[2] ἠνιᾶτο[1] καὶ ἀποσπώμενος αὐτῶν ἤχθετο. οὐ γὰρ οἶδ' ὅπως καθάπερ ἰξῷ τινι προσέχεται τοῖς τοιούτοις ἡ ψυχὴ καὶ οὐκ ἐθέλει ἀπαλλάττεσθαι ῥᾳδίως ἅτε αὐτοῖς πάλαι προστετηκυῖα· μᾶλλον δὲ ὥσπερ ἄῤῥηκτός[2] τις οὗτος ὁ δεσμός ἐστιν, ᾧ δεδέσθαι[1] ξυμβέβηκεν αὐτούς. ἀμέλει,[2] κἂν ἀπάγῃ τις αὐτοὺς μετὰ βίας, ἀνακωκύουσι, καὶ τἄλλα ὄντες θρασεῖς δειλοί[2] πρὸς ταύτην εὑρίσκονται τὴν ἐπὶ τὸν Ἅδην φέρουσαν ὁδόν. ἐπιστρέφονται γοῦν εἰς τοὐπίσω,[2] ὥσπερ οἱ δυσέρωτες,[2] καὶ πόῤῥωθεν ἀποβλέπειν τὰ ἐν τῷ φωτί[1] βούλονται. οἷα ὁ μάταιος ἐκεῖνος ἐποίει καὶ παρὰ τὴν ὁδὸν ἀποδιδράσκων[1] καὶ ἐνταῦθά σε καταλιπαρῶν.[2] ἐγὼ δέ, ἅτε οὐδὲν ἔχων ἐνέχυρον[2] ἐν τῷ βίῳ, οὐκ ἀγρὸν οὐ συνοικίαν οὐ χρυσὸν οὐ σκεῦος οὐ δόξαν οὐκ εἰκόνας,[1] εἰκότως[2] εὔζωνος[2] ἦν, καί, ἐπειδὴ μόνον ἡ Ἄτροπος[2] ἔνευσέ μοι, ἄσμενος[2] ἀποῤῥίψας τὴν σμίλην καὶ τὸ κάττυμα,[2] (κρηπῖδα γάρ τινα ἐν ταῖν χεροῖν εἶχον,) ἀναπηδήσας εὐθὺς ἀνυπόδητος,[2] οὐδὲ τὴν μελαντηρίαν[2] ἀπονιψάμενος,[1] εἱπόμην[1]—μᾶλλον δὲ ἡγούμην—ἐς τὸ πρόσω ὁρῶν, οὐδέν δέ με τῶν κατόπιν[2] ἐπέστρεφε καὶ μετεκάλει. καὶ νὴ Δί' ἤδη καλὰ τὰ παρ' ὑμῖν πάντα ὁρῶ. τό γὰρ ἰσοτιμίαν ἅπασιν εἶναι καὶ μηδένα τοῦ πλησίον διαφέρειν ὑπερήδιστον ἔμοιγε δοκεῖ. τεκμαίρομαι[2] δὲ μηδ' ἀπαιτεῖσθαι χρέα[1] τοὺς ὀφείλοντας ἐνταῦθα μηδὲ φόρους ὑποτελεῖν, τὸ δὲ μέγιστον, μηδὲ ῥιγοῦν[1] τοῦ χειμῶνος μηδὲ νοσεῖν μηδ' ὑπὸ τῶν δυνατωτέρων ῥαπίζεσθαι.[2] εἰρήνη δὲ πᾶσα καὶ τὰ πράγματα ἐς τοὔμπαλιν ἀνεστραμμένα·[1] ἡμεῖς μὲν γὰρ οἱ πένητες γελῶμεν, ἀνιῶνται δὲ καὶ οἰμώζουσιν[2] οἱ πλούσιοι. ΚΛΩΘΩ. πάλαι οὖν σε, ὦ Μίκυλλε! γελῶντα ἑώρων· τί δ' ἦν ὅ σε μάλιστα ἐκίνει γελᾶν; ΜΙΚ. ἄκουσον, ὦ τιμιωτάτη μοι θεῶν! παροικῶν ἄνω τυράννῳ πάνυ ἀκριβῶς ἑώρων τὰ γιγνόμενα παρ' αὐτῷ, καὶ μοι ἐδόκει τότε ἰσόθεός τις εἶναι. ἐπεὶ δὲ ἀπέθανεν, αὐτός τε παγγέλοιος ὤφθη[1] μοι ἀποδυσάμενος[1] τὴν τρυφὴν κἀμαυτοῦ ἔτι μᾶλλον κατεγέλων, οἷον κάθαρμα[2] ἐτεθήπειν[1] ἀπὸ τῆς κνίσης τεκμαιρόμενος αὐτοῦ τὴν εὐδαιμονίαν καὶ μακαρίζων ἐπὶ τῷ αἵματι τῶν ἐν τῇ Λακωνικῇ θαλάττῃ κοχλίδων.[2]

1. Parse fully and accurately every word to which the figure 1 is annexed.
2. Derive or decompound every word to which the figure 2 is annexed.
3. Supply elleipses and explain any noticeable constructions or idioms.
4. Explain briefly the references in lines 4, 5, 6, and in the last line.

Translate the following unprepared passage :—

ὁ δὲ Συντίπας εἶπεν· "ἄτοπον ἂν εἴη τοιαύτην ἐπαρχίαν πάσης συνέσεως γέμουσαν καὶ νοημάτων μὴ φιλόσοφον βασιλέα κεκτῆσθαι. ἐνταῦθα γάρ, μὴ τοιούτου βασιλέως ἐπιστατοῦντος τοῖς πράγμασιν, οὐ δεῖ τινα τῶν ἁπάντων διατρίβειν. ἔμαθον γὰρ ὡς οὐδὲν οἱ βασιλεύοντες τῷ θυμῷ τοῦ καυστικοῦ πυρὸς διαφέρουσι. καὶ δεῖ γε τούτους καὶ φιλοσόφους εἶναι ὅσον δυνατὸν καὶ φιλοσόφους ἄνδρας προσομιλεῖν καὶ τούτων ἀκούειν, ὥσπερ Ἀλέξανδρος, ἵνα μή τινων ὑποβολαῖς περὶ τὸ ὑπήκοον ὠμότεροι τῶν ἰδιωτῶν ἀναδειχθῶσιν, εἰ τοίνυν, ὦ βασιλεῦ! καθὼς σοι ἐπαγγέλλομαι, τέλειον τὸν υἱόν σου ἀποκαταστήσω φιλόσοφον, καὶ τὴν σὴν βασιλείαν ἐπάναγκες. ἔσται φιλοτιμήσασθαι ἐπ' ἐμέ." ὁ δὲ βασιλεὺς ἔφη πρὸς ταῦτα· "ὅ τι ἂν ᾖ σοι τὸ ποθούμενον, εἴπερ ὑπάρχει μοι ῥᾴδιον, τοῦτό σοι δώσω." ὁ δὲ Συντίπας ἀκούσας ἀπεκρίνατο· "ἐν παραδείγματι ἄκουσον, ὦ βασιλεῦ! ὅπερ αὐ παρά τινος οὐ ῥᾳδίως ἔχεις λαβεῖν, μηδ' αὖ αὐ ἑτέρῳ δοῦναι θελήσῃς." τότε ὁ βασιλεὺς τῷ λόγῳ τούτῳ συγκαταβὰς μεγάλαις ἐλπίσι καὶ χρησταῖς τὸν φιλόσοφον ἐπληροφόρει.

LATIN.—*Examiner, Professor Nesbitt.*

1. Translate, with brief notes :—

Hoc iudicium et promulgata lex exercuit civitatem : ab externis armis otium fuit. Cum velut victores tribuni perculsis patribus Caesonis exilio prope perlatam esse crederent legem, et quod ad seniores patrum pertineret cessissent possessione rei publicae, iuniores, id maxime quod

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Caesonis sodalium fuit, auxere iras in plebem, non minuerunt animos, sed ibi plurimum profectum est, quod modo quodam temperavere impetus suos. Cum primo post Caesonis exilium lex coepta ferri est, instructi paratique cum pugnati clientium exercitu sic tribunos, ubi primum submoventes praebuere causam, adorti sunt, ut nemo unus inde praecipuam quicquam gloriae donum invidiaeve ferret, mille pro uno Caesones exstitisse plebes quererentur. Mediis diebus quibus tribuni de lege non agerent, nihil eisdem illis placidius aut quietius erat ; benigne salutare, adloqui plebis homines, domum invitare, adesse in foro, tribunos ipsos cetera pati sine interpellatione concilia habere, nunquam ulli neque publice neque privatim truces esse, nisi cum de lege agi coeptum esset ; alibi populari's iuventus erat. Nec ceteri modo tribuni tranquillo peregere, sed refecti quoque in insequentem annum. Ne voce quidem incommoda, nedum ut ulla vis fieret, paulatim permulcendo tractandoque mansuefecerant plebem.

2. Translate and explain :—

(*a.*) Partem militum locis circa densa obsita virgulta obscuris subsidere in insidiis jussit.

(*b.*) Adeo id gratum plebi fuit, ut id modo scisceret juberentque, ut senatus decerneret qui Romae regnaret.

(*c.*) Bis deinde mutata forma eadem inter vos, semel T. Manlio consule post Punicum primum perfectum bellum, iterum, quod nostrae aetati dii dederunt ut videremus, post bellum Africanum ab imperatore Cæsare Augusto pace terra marique parta. (What evidence does this passage afford as to the time in which the first book was written ?)

(*d.*) Igitur tribuni, ut impediendae rei nulla spes erat, de proferendo exercitu agere.

(*e.*) Invenio apud quosdam, idque propius fidem est, a quaestoribus Caesone Fabio et L. Valerio diem dictam perduellionis damnatumque judicio populi.

(*f.*) Omnino amicitiae corroboratis jam confirmatisque et ingeniis et aetatibus judicandae sunt : nec si qui ineunte aetate venandi aut pilae studiosi fuerunt, eos habere necessarios quos tum eodem studio praeditos dilexerunt ; isto enim modo nutrices et paedagogi jure vetustatis plurimum benevolentiae postulabunt ; qui negligendi quidem non sunt, sed alio quodam modo : aliter amicitiae stabiles permanere non possunt.

3. Translate into Latin prose :—

There can be little doubt that Rome, like the Greek cities, was at first governed by Kings, who ruled by the help of a Senate and an Assembly of the People. But the Roman Kings, unlike those in Greece, were not hereditary, nor were they even chosen from any particular family. The legend gives us the names of seven Kings, and it is most likely that the two or three last names on the list are those of real persons. These are the dynasty of the Tarquinii, about whom there have been many opinions, but who most likely were Etruscans, and who seem to have adorned Rome with buildings and works of Etruscan art. At all events they greatly extended the power of Rome, so that she became the greatest of all Latin cities. The last King, Lucius Tarquinius, called the Proud, is said to have acted as a cruel tyrant, and to have had no regard for the laws of the Kings who had gone before him. He was accordingly driven out with his family, and the Romans determined to have no more Kings, and they ever after hated the very name of *King*. This is said to have happened B.C. 510, about the same time when the tyrant Hippias was driven out of Athens.

of Queen's College, Belfast. 43

Appendix
No. 8.
Scholarship
Examina-
tions.

Translate with brief notes :—

1. Inter quas Phoenissa recens a vulnere Dido
   Errabat silva in magna : quam Troius heros
   Ut primum iuxta stetit agnovitque per umbram
   Obscuram, qualem primo qui surgere mense
   Aut videt aut vidisse putat per nubila Lunam,
   Demisit lacrimas, dulcique adfatus amore est :
   "Infelix Dido, verus mihi nuntius ergo
   Venerat extinctam ferroque extrema secutam ?
   Funeris heu tibi causa fui ? Per sidera iuro,
   Per superos, et si qua fides tellure sub ima est :
   Invitus, regina, tuo de litore cessi.
   Sed me iussa deum, quae nunc has ire per umbras,
   Per loca senta situ cogunt noctemque profundam,
   Imperiis egere suis ; nec credere quivi
   Hunc tantum tibi me discessu ferre dolorem.
   Siste gradum, teque aspectu ne subtrahe nostro.
   "Quem fugis ? extremum fato, quod te alloquor, hoc est."
   Talibus Aeneas ardentem et torva tuentem
   Lenibat dictis animum, lacrimasque ciebat ;
   Illa solo fixos oculos aversa tenebat,
   Nec magis incepto vultum sermone movetur,
   Quam si dura silex aut stet Marpesia cautes.
   Tandem corripuit sese, atque inimica refugit
   In nemus umbriferum, coniux ubi pristinus illi
   Respondet curis aequatque Sychaeus amorem.

2. Me fabulosae Vulture in Appulo
   Altricis extra limen Apuliae
     Ludo fatigatumque somno
       Fronde nova puerum palumbes.

   Texere, mirum quod foret omnibus,
   Quicunque celsae nidum Acherontiae
     Saltusque Bantinos et arvum
       Pingue tenent humilis Forenti,

   Ut tuto ab atris corpore viperis
   Dormirem et ursis, ut premerer sacra
     Lauroque conlataque myrto,
       Non sine dis animosus infans.

   Vester, Camenae, vester in arduos
   Tollor Sabinos, seu mihi frigidum
     Praeneste seu Tibur supinum
       Seu liquidae placuere Baiae.

   Vestris amicum fontibus et choris
   Non me Philippis versa acies retro,
     Devota non extinxit arbos,
       Nec Sicula Palinurus unda.

   Utcunque mecum vos eritis, libens
   Insanientem navita Bosporum
     Tentabo et urentes harenas
       Litoris Assyrii viator.

   Visam Britannos hospitibus feros
   Et laetum equino sanguine Concanum,
     Visam pharetratos Gelonos
       Et Scythicum inviolatus amnem.

3. Nostra quoque ipsorum semper requiesque sine ulla
Corpora vertuntur, nec, quod fuimusve sumusve,
Cras erimus. Fuit illa dies, qua semina tantum
Spesque hominum primaæ materna habitavimus alvo.
Artifices natura manus admovit, et angi
Corpora visceribus distentae condita matris
Noluit, eque domo vacuas emisit in auras.
Editus in lucem jacuit sine viribus infans;
Mox quadrupes rituque tulit sua membra ferarum,
Paulatimque tremens et nondum poplite firmo
Constitit, adjutis aliquo conamine nervis.
Inde valens veloxque fuit, spatiumque juventae
Transit, et emensis medii quoque temporis annis
Labitur occiduae per iter declive senectae.
Subruit haec ævi demoliturque prioris
Robora ; fletque Milon senior, cum spectat inanes
Illos, qui fuerant solidorum mole tororum
Herculeis similes, fluidos pendere lacertos.
Flet quoque, ut in speculo rugas aspexit aniles,
Tyndaris, et secum, cur sit bis rapta, requirit.
Tempus edax rerum, tuque invidiosa vetustas,
Omnia destruitis, vitiataque dentibus aevi
Paulatim lenta consumitis omnia morte.

Translate into Latin verse :

> But he's the Tityus, who is robbed of rest
> By tyrant passion preying on his breast.
> The Sisyphus is he whom noise and strife
> Seduce from all the soft retreats of life,
> To vex the government, disturb the laws,
> Drunk with the fumes of popular applause :
> He courts the giddy crowd to make him great
> And toils in vain to mount the sovereign seat.
> Thus still to aim at power and still to fail,
> Ever to strive and never to prevail ;
> What is it but in reason's true account
> To heave the stone against the rising mount ?

History.—*Examiner, Professor Yonge.*

1. In what sense was William the First called the Conqueror, and his accession to the English throne called the Conquest ?

2. What continental dominions were possessed by any kings of England between 1066 and 1509. Under what circumstances were each acquired ; and, if any of them were at any time lost, what circumstances led to the loss ?

3. State and examine the principal provisions of Magna Charta ; and the events which led to its concession.

4. Give some account of six of the following battles :—Dam, Taille-bourg, Evesham, Falkirk, Sluys, Najara, Verneuil, Towton, Barnet, Stoke.

5. Relate the circumstances which led to the deposition of Richard II.

6. Examine the claim of Edward III. to the throne of France.

7. In a short essay, examine the probable consequences to England, if the English kings had succeeded in permanently establishing their authority over France.

SECOND YEAR STUDENTS.

GREEK.—*Examiner*, Professor MacDouall.

Translate perspicuously these strophes from the *Electra* of EURIPIDES:—

Ἴλιόθεν δ᾽ ἔπλευσ᾽ τινος ἐν λιμένα
Ναυπλίους βέβαρκε
ῥὰς σᾶς, ὢ θέτιδος παῖ!
ἐλεισάς ἀσπίδος ἐν κύκλῳ
τοιάδε σήματα δείματα
φρικτὰ τυτθγθαί·
περιδρόμῳ μὲν ἴτνος ἕδρα
Περσέα λαιμοτόμον ὑπὲρ
ἁλὸς ποταινίοι πεδίλοισι φυὰν
Γοργόνος Ἴσχων Διὸς ἀγγέλῳ σὺν Ἑρμᾷ
τῷ Μαίας ἀγρονόμῳ κούρῳ·

ἐν δὲ μέσῳ κατέλαμπε σάκει φαέθων
κύκλος ἀελίοιο
ἵπποις ἅμ πτεροέσσαι
ἄστρων τ᾽ αἰθέριοι χοροί
(Πληιάδες Ὑάδες)* Ἕκτορος
ὄμμασι τροπαῖοι.
ἐπὶ δὲ χρυσοτύπῳ κράνει
σφίγγες ὄνυχιν ἀοίδιμον
ἄγραν φέρουσαι. περικλεύρῳ δὲ εὔτι
πύρπνοος ἐσπεύθ᾽ δρόμῳ λέαινα χαλαῖς
Πειρηναῖον ὁρᾶσα πῶλον.

ἅμαρτ δ᾽ ἐν φόνιαισι τετραβάμοσιν Ἵπποι ὑαλλον,
κελαινὰ δ᾽ ἀμφὶ νῶθ᾽ ἵετο κόνις.
τοιῶνδ᾽ ἄνακτα δοριπόνων
τεκέων Τυνδαρίς,
σὰ λέχρα, κακόφρων κόρα!
τοιγάρ σὲ ποτ᾽ οὐρανίδαι
πέμψουσιν θανάτοισι· σὰν δ᾽
ἔτ᾽ ἔτι φόνιον ὑπὸ δέραν
ὄψομαι αἶμα χυθὲν σιδάρῳ.

In concise notes explain allusions in this passage, specify the various metres, elucidate rare or difficult constructions, and suggest emendations where they may appear requisite.

Translate the following unprepared passage:—

δεῖ καὶ τοὺς νόμους τῆς πατρίδος καθάπερ τινὰς θεοὺς δεντέρους συντηρεῖν, εἰ καὶ παραβαίνουσι τις αὐτοὺς ἢ νεομηδὲν ἐπιχειρῶν, σπουδῇ γὰρ καλόντινα καὶ πάντα τρόπον ἀναπειθόμενον. σὺ γὰρ ἀγαθὸν ἀπεργάζεται πόλιν δι᾽ ἀτιμίας ἀγομενον οὐ νόμων καὶ τὰ νέα ψηφιζόμενα τῶν παλαιῶν. θέον καὶ τὴν ψηφισθέντων καὶ τῆς παραβάσεως τὰς κανουργίας εἰργεντίτι τοῦς ἀδιαλεύτορους ἐπὶ τοὺς ὄντας. ἀποδημῶν γοῦν αὑτὸν τὸν νομοθέτου ἀρίμων Σόλωνος, ὡς ἱστοροῦν θεσμῶν ὃς ᾐτήσατο εἰσιάσοντα νόμον βράχιον περιεμένοντο τοῦ γράφειν ἐν δέκα στουδίν, καὶ δεκάρε αὐτὸν παγγείς, ὥ οἱ αγραφὴ τις εἴναι σφόδρα λυσιτελὴς τῇ κοινῇ παραβλαβλέντων τὴν ἐξ ἀρχῆς τῆς πολιτείας κατάστασιν. εἴθ᾽ ἤττον τῶν νόμων καὶ τὰ ἤθη φιλακτέον τά γι λίαιῳ γὰρ πάτρια καὶ τρόπον τινὰ πρεσβύτερα καὶ τῶν νόμων αὐτῶν· τὰ δὲ χλιβᾶ ταῦτα καὶ νεωξῶ τά νῦν εἰς ἀπαγὴν πρυτάνεια φέρειν σῖμα οξηζ μάλιστα ἀγνῶμα καὶ τοῦ νόμου κακὸν ἐπιγεγραμμένου νομοθέτην τὸ βιον ἀγραφῆς τῶν ἀπάντων ἐθαρῥυντων.

LATIN.—*Examiner, Professor Nesbitt.*

Translate, with brief notes when necessary:

1. Siciliam ac Sardiniam, quae ante bellum vectigales fuissent, vix praesides provinciarum exercitus alere i tributo sumptus suppeditari; tum pauam tributorum conferentium numerum tantis exercituum stirpibus et ad Trasimennum lacum et ad Cannas imminutum; qui supersessent pauci, si multiplici gravarentur stipendio, alia peritiores peste. Haquenisi fide staret, rem publicam opibus non stituram. prudentium in consulto hominum Fulvio praetori esse, indicandos populo publicas necessitates, eohortandosque, qui redempturis auxissent patrimonia, ut rei publicae, ex qua crevissent, tempus commodarent, conducerentque ei lege praebenda, quae ad exercitum Hispaniensem opus essent, in quam pecunia in tempore esset, iis primis solveretur. Haec praetor in contione edixit, quoque die vestimenta frumentum Hispaniensi exercitui praebenda quaeque alia opus essent navalibus sociis esset locatura. Ubi ea dies venit, ad conducendum tres societates adeeunt hominum undeviginti, quorum duo postulata fuere : unum, ut militia vacarent, dum in eo publico essent : alterum, ut, quae in naves imposuissent, ab hostium tempestatisque vi publico periculo essent. Utroque impetrato, conduxerunt, privatamque pecunia respublica administravit. Hi mores, eaque caritas patriae per omnes ordines velut tenues una pertinebat.

2. Quid multa? Totum hunc locum, quem ego varie meis orationibus, quarum tu Aristarchus es, soleo pingere, de flamma, de ferro—nosti illas λῃκύθους. (, valde graviter pertexuit. Proxime Pompeium sedebam. Intellexi hominem moveri, utrum Crassum invire eua gratiam, quam ipse praetermiserat, an esse tantas res nostras, quas tam libenti senatu laudarentur, ab eo praesertim, qui mihi laudem illam eo minus deberet, quod meis omnibus litteris in Pompeiana laude perstrictus esset. Hic die me valde Crasso adiunxit, et tamen ab illo aperte tecte quidquid est datum libenter accepi. Ego autem ipse, di boni! quo modo ένεπερπερευσάμην novo auditori Pompeio! Si unquam mihi περίοδοι ή καμπαὶ ἐνθυμήματα ή κατασκευαὶ suppeditaverunt, illo tempore. Quid multa? Clamores. Etenim haec erat ὑπόθεσις, de gravitate ordinis, de equestri concordia, de consensione Italiae, de intermortuis reliquiis coniurationis, de vilitate, de otio. Nosti iam in hac materia sonitus nostros : tanti fuerunt, ut ego eo brevior sim, quod eos usque istim exaudito putem.

3. Translate and explain:

(*a.*) Hinc senatores, omissa dignitatis libertatisque memoria, plebem adulari sultari tempus hinuiare appraratio accipere apulis, eas causas susciperre, ei semper parti adesse, secundum eam litem litibus dare, quae magis popularis aptiorque in vulgus faveri conciliando esset.

(*b.*) Laetoque juveni promissis equum exuinium dono dat, bigatosque quingentos quaestorem numerare iubet.

(*c.*) Vixdum omnes conscenderant, quum alii resolutis oris in ancoras evertunt ; alii, ne quid teneat, ancoralia incidunt. (Mention any other readings which have been suggested.)

(*d.*) Id mirabamur te ignorare, de tutela legitima, in qua dicitur esse puella, nihil us capi posse.

(*e.*) Nam ea Caecilio propinqui minore centesimis nummum movere non possunt.

(*f.*) Meus autem liber totum Isocrati μυρόθηχει atque omnes ejus discipulorum arculas ac nonnihil etiam Aristotelia pigmenta consumpsit.

4. Translate into Latin prose:—

These wars bring out another point of difference between Carthage and Rome. For, while the Romans waged their wars by the hands of their own citizens and allies, the wars of Carthage were mainly carried on by barbarian mercenaries, that is, soldiers serving for pay, whom they hired from Gaul, Spain, Africa, anywhere in short. A state which does this can never hold up for good against one which uses native armies; and it is a sign of the great wealth and power of Carthage, helped still more by a few very great men who appeared among her citizens, that Carthage could hold up as long as she did. Carthage had indeed one great advantage, namely that, as a trading city, she was very strong by sea, while the Romans had as yet hardly anything to do with naval affairs. Thus Carthage and Rome were the two great states of the West, and it could hardly fall but that war should spring up between them about something. And it was the more likely, as the island of Sicily lay between them, where the Carthaginians had large possessions, and where the Greek cities were closely connected with the Greek subjects of Rome in Southern Italy.

Translate, with brief notes:—

1. Pars magna Italiae est, si verum admittimus, in qua
   Nemo togam sumit nisi mortuus. Ipsa dierum
   Festorum herboso colitur si quando theatro
   Maiestas tandemque redit ad pulpita notum
   Exodium, quum personae pallentis hiatum
   In gremio matris formidat rusticus infans,
   Aequalis habitus illic similesque videbis
   Orchestram et populum : clari velamen honoris,
   Sufficiunt tunicae summis Aedilibus albae.
   Hic ultra vires habitus nitor ; hic aliquid plus
   Quam satis est interdum aliena sumitur arca.
   Commune id vitium est : hic vivimus ambitiosa
   Paupertate omnes. Quid te moror ? omnis Romae
   Cum pretio. Quid das ut Cossum aliquando salutes ?
   Ut te respiciat clauso Veiento labello ?
   Ille metit barbam, crinem hic deponit amati ;
   Plena domus libis vasalibus. Accipe et istud
   Fermentum tibi habe : praestare tributa clientes
   Cogimur et cultis augere peculia servia.

2. Consumptis opibus vocem, Damasippe, locasti
   Sipario, clamosum ageres ut Phasma Catulli ;
   Laureolum velox etiam bene Lentulus egit,
   Iudice me dignus vera cruce. Nec tamen ipsi
   Ignoscas populo : populi frons durior huius,
   Qui sedet et spectat triscurria patriciorum.
   Planipedes audit Fabios, ridere potest qui
   Mamercorum alapas. Quanti sua funera vendant
   Quid refert ? vendunt nullo cogente Nerone,
   Nec dubitant celsi praetoris vendere ludis.
   Finge tamen gladios inde, atque hinc pulpita pone :
   Quid satius ? morieris sic quisquam exhorruit ut sit
   Zelotypus Thymeles, stupidi collega Corinthi ?

3. Occurris quotiens, Luperce, nobis :
   " Vis mittam puerum " subinde dicis,
   " Cui tradas epigrammaton libellum,

 Lectum quam tibi protinus remittam?"
 Non est quod puerum, Luperce, vexes.
 Tempus erit si velit ad Pirum venire,
 Et scalis habito tribus, sed altis.
 Quod quaeris propius petas licebit.
 Argi nempe soles subire letum :
 Contra Caesaris est forum taberna :
 Scriptis postibus hinc et inde totis,
 Omnes ut cito perlegas poetas.
 Illinc me pete, nec roges Atrectum,—
 Hoc nomen dominus gerit tabernae,—
 De primo dabit alterove nido
 Rasum pumice purpuraque cultum
 Denariis tibi quinque Martialem.
 "Tanti non es" ais ? Sapis, Luperce.

4. Frater ad eloquium viridi tendebat ab aevo,
 Fortia verbosi natus ad arma fori.
 At mihi iam puero caelestia sacra placebant,
  Inque suum furtim Musa trahebat opus.
 Saepe pater dixit : "Studium quid inutile tentas ?
  Maeonides nullas ipse reliquit opes."
 Motus eram dictis, totoque Helicone relicto,
  Scribere conabar verba soluta modis.
 Sponte sua carmen numeros veniebat ad aptos,
  Et, quod tentabam scribere, versus erat.
 Interea tacito passu labentibus annis,
  Liberior fratri sumta mihique toga est,
 Induiturque humeris cum lato purpura clavo ;
  Et studium nobis, quod fuit ante, manet.
 Iamque decem vitae frater geminaverat annos,
  Cum perit, et coepi parte carere mei.
 Cepimus et tenerae primos aetatis honores,
  Deque viris quondam pars tribuni una fui.
 Curia restabat : clavi mensura coacta est :
  Maius erat nostris viribus illud onus.

5. Translate and explain :

 (a.) Et qui nec cynicos nec stoica dogmata legit
   A cynicis tunica distantia, non Epicurum
   Suspicit exigui laetum plantaribus horti.

 (b.) Stupet haec, qui jam post terga, reliquit
   Sexaginta annos, Fonteio consule natus ?

 (c.) Quanta autem inde feres tam dirae praemia culpae
   Cum tenues nuper Marius discinxerit Afros.

 (d.) Quanquam et Cappadoces faciant equitesque Bithyni,
   Altera quos nudo traducit Gallia talo.

 (e.) Cedro nunc licet ambules peructus
   Et frontis gemino decus honore
   Pictis luxurieris umbilicis,
   Et te purpura delicata velet
   Et cocco rubeat superbus index.

 (f.) Tu Libycos Indis suspendis dentibus orbes.

 (g.) Censetur Apona Livio suo tellus.

6. Translate into Latin elegiacs:

> A spring there is whose silver waters show,
> Clear as a glass the shining sands below;
> A flowery Lotus spreads its arms above,
> Shades all the banks and seems itself a grove;
> Eternal greens the mossy margin grace
> Watched by the sylvan genius of the place.
> Here as I lay and swelled with tears the flood
> Before my eyes a watery virgin stood.
> She stood and cried, "Oh you that love in vain
> Fly hence and seek the fair Leucadian main;
> There stands a rock from whose impending steep
> Apollo's fane surveys the rolling deep;
> There injured lovers leaping from above
> Their flames extinguish and forget their love."

THE ENGLISH LANGUAGE.—*Examiner,* Professor Yonge.

1. What transitions did the English language go through between the reigns of Edward III. and Elizabeth, and how far do they, or should they, influence our study of the early English writers.

2. Give an analysis of the first book of the Essay on Man, quoting one passage of at least ten lines.

3. How far may "Macbeth" be regarded as an historical play. Is there any passage in it which seems to determine the time at which it was written.

4. Mention some of the instances which Lord Macaulay cites in his first chapter, of the degree in which modern, or comparatively modern statesmen have considered themselves bound to guide their conduct by precedents drawn from the age of the Plantagenets.

5. Enumerate the chief classes into which the literature of a nation may naturally be divided; and mention the names of one or two of the most eminent writers in each class in our own nation, with the reigns in which they lived.

6. What are the origin and meaning of the term Aryan; and to what languages is it now applied.

7. Write a brief essay on Pope's life and character; embodying any of Dr. Johnson's comments on his genius and works, if you are acquainted with them.

MODERN LANGUAGES.—*Examiner,* Professor Meissner.

FRENCH.

Translate into French:

1. Hardly had he pronounced these words, when his voice failed him. The cook crows before day-break. He stands before the door. The woman has just gone out is the one of whom I spoke to you. He did nothing but play. This ought to have satisfied you. I wished you would go with me.

2. Charles V. was born at Ghent on the twenty-fourth day of February, in the year one thousand five hundred. A long train of fortunate events had opened the way for this young prince to the inheritance of more extensive dominions than any European monarch, since Charlemagne, had possessed. Each of his ancestors had acquired kingdoms or provinces, towards which their prospect of succession was extremely remote.

3. Our good or bad fortune in the world depends on our own prudence. There is a book open for all eyes, it is that of nature. How comes it to

pass that men are usually more judicious in other people's affairs than in their own?

Translate into English:

Les tirailleurs arrivaient alors près du ravin bordé de broussailles & de hales vives. Déjà, quelques instants avant, j'avais aperçu plus loin, de l'autre côté, quelque chose remuer & reluire comme des épis où passe le vent ; l'idée m'était venue que les Russes, avec leurs lances & leurs sabres, pouvaient bien être là ; j'avais pourtant de la peine à le croire. Mais au moment où nos tirailleurs s'approchaient des bruyères, & comme la fusillade s'engageait un pouvoir en avant, j'entendis derrière moi, à un quart de lieue de distance et sur la droite, un bruit d'artillerie assez brusque & de canons et tonna. Ces Russes avaient des canons ; ils venaient de tirer sur nous, & je ne sais quel bruit m'ayant fait tourner la tête, je vis que dans les rangs, à gauche, se trouvait un vide.

En même temps j'entendis le colonel Zapfel qui disait tranquillement :

"Serrez les rangs !"

Et le capitaine Florentin qui répétait :

"Serrez les rangs !"

Cela s'était fait si vite, que je n'eus pas le temps de réfléchir. Mais cinquante pas plus loin il y eut encore un éclair & un bruit pareil dans les rangs,——comme un grand souffle qui passe,——& je vis encore un trou, cette fois à droite.——ERCKMANN-CHATRIAN.

Philological Questions :

1. Explain the terms *langue d'oc* and *langue d'oïl.*
2. Give the etyma of *cie, cheval* and *bâton,* and remark thereon.
3. Account for the difference in gender in : *le somme* and *la somme, le livre* and *la livre.*

Translate into German :

I had expected that he would not be at home. When spring begins, the swallows return. When I called upon my friend, I found him ill. Read down to the end of the chapter. The book lies upon the table. I have put the book upon the table. He attends to his business most conscientiously. He has met with many a misfortune. The whole family is in the country. The steam-boat arrives at a quarter to three. What did he speak of? In what have I done wrong? These are important documents. They sat beside each other. Even the richest is not without cares. You may rely upon it. As soon as we received the news, we ordered our horses to be saddled. He has been obliged to resign his office. He has not been able to come. I shall not be able to stay. The children are to go to school.

Translate into English :

Anfangs hielten sich die beiden großen Parteien ungefähr das Gleichgewicht, je die Franzosen entschieden ein größeres Uebergewicht. Wohl bezwangen am Niederrhein die Verbündeten das Erzstift Cöln, dagegen scheiterte Wartkerung's Angriff auf Belgien und dem kaiblötigen mit hohen Widerstande des Marschall Boufflers. Am Oberrhein eroberte Ludwig von dem Franzosen Landau und mit breiten einem Bund auf der einigung, daß er sich plötzlich in seinem Rücken des Emanuel erhob, eine einmütigen wird nun bumit den Landgrafen welcher, der den Mein jungelszsemben und in einer festen Stellung auf dem Schwarzwalde so möglich die Vereinigung der Bayern und der Franzosen zu sichern. In Italien eröffnete Eugen den Feldzug durch einen eben rascher und rastlosen streich gegen die festung Cremona, indem er durch einen alten, der noch unbenützter verlassenen Wassergraben mit 2000 Mann in dieselbe eindrach, der feindlichen Zerstreut Villeroy auf dessen eigener Hauptwache gefangen nahm, kann aber den Platz gegen der Uebermacht doch nicht behaupten konnte.——SYBEL.

SCIENCE SCHOLARSHIPS.—FIRST YEAR STUDENTS.

MATHEMATICS.—*Examiner, Professor Purser.*

ALGEBRA AND ARITHMETIC.

1. A manufacturer finds that if in the coming year he has to pay 20 per cent. more for his raw material and 8 per cent. more for the cost of manufacture he will require to raise the price of his manufactured goods 14 per cent. in order to make the same profit as before, but that if he has to pay 25 per cent. more for his material and 12 per cent. more for the cost of manufacture he must raise the price of his goods 17⅔ per cent.; find what proportion the cost of material and the cost of manufacture originally bore to one another.

2. The sides of a triangle are 5, 6, 7, respectively. Calculate to two decimal places its area and the radius of the exscribed circle touching the longest side.

3. What sum of money will amount in two years to £100 at 6 per cent. compound interest.

4. Given $\cos 40° = .766$; find to two decimal places $\tan 20°$ and $\tan 25°$.

5. Solve the equations:—

   (α) $3x^2 + 4x = 7$.

   (β) $x^3 + \dfrac{1}{x^3} = x + \dfrac{1}{x}$.

   (γ) $\sqrt{1 + 4x^2} + \sqrt{x^2 + 4} = \sqrt{1 + x + x^2}$.

6. Reduce to a quadratic the equation

$$\left(\frac{m-x}{n+x}\right)^{\frac{1}{3}} - \left(\frac{n+x}{m-x}\right)^{\frac{1}{3}} = a$$

7. Given

$$\left.\begin{array}{c} x^2y = (a-x)^2 \\ y^2x = (b-y)^2 \end{array}\right\} \text{ find } x \text{ and } y.$$

8. Given

$$\left.\begin{array}{c} y + z = x(a+yz) \\ z + x = y(b+zx) \\ x + y = z(c+xy) \end{array}\right\} \text{ find } x, y, \text{ and } z.$$

9. Find the sum of a geometric series. Prove that if S be the sum of a series in geometric progression S' the sum of the same series with its terms alternately positive and negative Σ the sum of the first series with its terms all squared then $\Sigma = SS'$ provided that the number of terms in the series be an odd number.

10. Define a logarithm to the base 10. Why have logarithms of the same sequence of figures the same mantissa wherever the decimal point be placed.

Given $\log 2 = 0.30103$ $\log 3 = 0.47712$.

Calculate $\log(.0054)$.

Assuming that the logarithms of two consecutive numbers greater than 1000 differ only in the fourth place of decimals, calculate $\log 7$ to three places.

11. Given the coefficient of x^7 in $(3-2x)^{10}$ and of x^8 in $(1+x)^2$. $(1+x^2)^3 . (1+x^3)^3$, determine both.

12. Prove that the solution of the problem—to find a point P in a given line such that the sum of its distances from two given points of the line but both on the same side of it depends upon a quadratic equation. Find by this method the position of P when such sum is least.

GEOMETRY AND TRIGONOMETRY.

*Scholarship
Examina-
tions.*

1. Define similar figures. A rectilineal figure described upon the hypotenuse of a right-angled triangle is equal to the sum of two similar and similarly described figures described upon the sides.

2. The area of a polygon of given sides is greatest when it is inscribable in a circle.

3. Find two lines such that the rectangle under them shall be equal to one given area and the difference of their squares to another.

4. Given two circles, the second passing through the centre A of the first, draw a variable tangent to the first meet the second in the points P, Q the rectangle $AP.AQ$ is constant.

5. Find tan 15° and tan 7½°.

Reduce each to a decimal to three places.

6. Prove that

$$\tan \tfrac{1}{2}(A - B) = \cot \tfrac{1}{2}C\frac{a-b}{a+b}, \text{ and that } \tan \tfrac{1}{2}A = \sqrt{\frac{s-b.s-c}{s.s-a}}.$$

7. A hexagon, three of whose sides are equal, is inscribed in a circle of radius (r). Given the length a of one of the equal sides, calculate that of the remaining side.

8. Reduce $1-\cos^2 A-\cos^2 B-\cos^2 C-2\cos A\cos B\cos C$ to the product of four factors. Hence find a corresponding expression for $1-\cos^2 A-\cos^2 B-\cos^2 C+2\cos A\cos B\cos C$.

9. Prove that in all cases $a = b\cos C + c\cos B$. From this and the two similar formulae deduce the expression for $\cos A$ in terms of the sides.

10. Prove from trigonometrical considerations that $\dfrac{1+x}{\sqrt{1+x^3}}$ is greatest when $x=1$.

11. Given cos 29° = ·87462 cos 31° = ·85771, find to 5 decimal places tan 1°.

12. Show that

if $2\psi = \phi + \sin^{-1}(e\sin\phi)$, $\phi = \psi + \tan^{-1}(e\tan\psi)$, where $e = \dfrac{1-c}{1+c}$.

SECOND YEAR STUDENTS.

MATHEMATICS.—*Examiner, Professor Purser.*

1. Find the volume of a pyramid.

Find the whole area of the sphere.

2. Prove that if V be the volume of the solid cut off by plane from a given cone, and A the area of the triangle subtended by the major axis of the section at the vertex of the cone then $V^2 \propto A^3$.

3. Deduce by any method the value of π to three decimal places.

4. Show how to reduce the elimination of one variable from two equations of the nth degree to that of s variables from n equations of the first degree.

Write down as a determinant the result of eliminating x from $x^3 + ax^2 + d = 0$ $x^3 + ex + e = 0$.

5. Show that log $(1+x)$ lies between $x - \tfrac{1}{2}x^2$ and $x - \tfrac{1}{2}x^3$, x being less than unity.

Assuming this, prove that the continued product $(1+\alpha)$ $(1+\beta)$ $(1+\gamma)\ldots\ldots\ldots\ldots$ converges to a finite value distinct from zero when the series $\alpha+\beta+\gamma+\&c.$, and $\alpha^2+\beta^2+\gamma^2+\&c.$ are both convergent.

6. Prove that if $x\cos(\alpha_1+\alpha_2)+y\sin(+\alpha_1\alpha_2)-\cos(\alpha_1-\alpha_2)$ be denoted by A_1, then A_1, A_2, $A_3\ldots A_n$, A_2, $A_3\ldots A_n$, A_4, is divisible by x^2+y^2-1.

7. Prove Demoivre's theorem.

8. Expand $\cos^n\theta$ in cosines of multiples of θ and $\cos n\theta$ in powers of $\cos\theta$.

9. Assuming the exponential and logarithmic series, calculate $\sqrt[3]{e}$ and $\log_e(10)$ each to two decimal places.

CO-ORDINATE GEOMETRY.

1. The co-ordinates of a triangle are of A $(3,0)$, of B $(5,1)$, of C $(4,3)$, find the co-ordinates—

   1° of the intersection of AB and OC,

   2° of the foot of the perpendicular from A on BC,

   3° of the centre of the circle inscribed in ABC.

2. Find the length of the perpendicular from any point x' y',

   1° on the line $x\cos\alpha+y\sin\alpha-p$

   2° on each of the bisectors between the lines

$$x\cos\alpha+y\sin\alpha-p=0 \quad\text{and}\quad x\cos\beta+y\sin\beta-p'=0.$$

3. Find the equation of the tangent to the circle

$$ax^2+ay^2+3gx+2fy+c=0 \quad \text{at any point } x'y'.$$

Prove that the same equation represents the polar when the point is not on the curve.

4. A varying circle passes through the vertex of a given right-angled triangle, and touches the hypotenuse : if m and n are the intercepts cut off from the sides a and b of the triangle ; find the relation between m and n.

CONIC SECTIONS.

[To be proved geometrically.]

1. Find the area of a parabola cut off by any chord.

2. The tangent to a central conic makes equal angles with the focal distances.

3. There exist in general two points in the plane of any section of a cone such that the sum or difference of the distances from these points of a variable point on the curve of section is constant. Prove this, and point out the exceptional case.

4. If P be a point on an ellipse, Q the corresponding point on the auxiliary circle, S one of the foci, show SP is equal to the perpendicular let fall from S on the tangent to the circle at Q.

SPHERICAL TRIGONOMETRY.

1. Any four of the six elements of a spherical triangle can be connected by a formula.

Show that there are four distinct types of these formulae. Write down and prove a formula of each type.

2. Prove that in a right-angled triangle

$$\sin a=\sin A\,\sin c \quad \text{and} \quad \cos a=\cot A\cot B.$$

3. If *ABCD* be a spherical quadrilateral and *AB*, *DC* when produced meet in *Q* prove that

$$\cos AD \cos BC - \cos BD \cos AC = \sin AB \sin CD \cos Q.$$

4. Given in position the vertical angle of a spherical triangle and a point through which the base passes, prove that its area is a maximum or a minimum when the base is bisected at the point. Distinguish when it is a maximum and when a minimum.

DIFFERENTIAL CALCULUS.

1. Prove that $\dfrac{d}{dx}(x^n) = nx^{n-1}$ for all indices.

2. Differentiate the following expressions:—

$$\frac{x^5}{(1+x^2)^{\frac{3}{2}}}, \qquad \frac{(2x^2-1)\sqrt{1+x^2}}{3x^3}, \qquad \tan^{-1}\frac{2x}{1-x^2}, \qquad \log\tan x.$$

3. If *x* and *y* are the co-ordinates of a variable point on a given curve, examine the geometric meanings of $\dfrac{dy}{dx}$ ... $\dfrac{y-x\dfrac{dy}{dx}}{\sqrt{1+\left(\dfrac{dy}{dx}\right)^2}}$, ...

4. Examine by the Differential Calculus when $x^m(a-x)$ is a maximum or minimum.

Find when the portion of the tangent to a parabola intercepted between the point of contact and the directrix subtends at the focus a triangle of minimum area.

ENGINEERING SCHOLARSHIPS.—SECOND YEAR STUDENTS.

NATURAL PHILOSOPHY.—*Examiner*, Professor Everett.

EXPERIMENTAL PHYSICS.

1. Give a brief account (without going into calculation) of the correction of the barometer for temperature and capillarity, and of the reduction to sea-level. In what barometers is the correction for capacity necessary?

2. What is the general principle of the wet and dry bulb hygrometer, and what is meant by the "relative humidity" of the air?

3. Point out the difference between the behaviour of an ordinary gas, and the behaviour of a vapour at maximum tension, in contact with its liquid, (*a*) when a slight additional pressure is applied, the heat of compression being allowed to escape, (*b*) when the temperature is raised by the direct application of heat.

4. Define electrical density at a point on the surface of a conductor, and describe a mode of measuring it.

5. What relations exist between the horizontal, vertical, and total magnetic intensities at a place on the earth's surface; and how can the dip be calculated when the two former are known?

6. When a plane circuit is suspended from an Ampère's stand, and a current passed through it, what position does it ultimately assume when acted on solely by terrestrial magnetism? What is meant by a solenoid, and what position does it assume in the above circumstances?

7. A plane mirror upon which a ray of light falls, is turned, through a given angle, about an axis perpendicular to the plane of incidence. Investigate the change which is produced in the direction of the reflected ray.

8. Explain the use of the sounding board in the piano; and describe the construction of a reed organ-pipe.

9. If the velocity of sound in fir is 15000 feet per second, what will be the length of a fir rod, which, when vibrating longitudinally in its fundamental mode, produces a note of 512 vibrations per second?

NATURAL HISTORY.—*Examiner, Dr. Cunningham.*

MINERALOGY, GEOLOGY, AND PHYSICAL GEOGRAPHY.

1. State the chemical and physical characters of the following minerals: Celestine, Barytes, Corundum, Garnet, and Zircon.

2. What is the nature of Lydian-stone, and where has it been obtained in Ireland?

3. What beds are designated by the name of "Calp," and in what part of Ireland do they principally occur?

4. Give a table of the Jurassic strata as exhibited in Great Britain and Ireland.

5. Describe the structure of a Belemnite.

6. Mention some of the principal fossils of the London clay.

7. Give the names of the chief salt lakes of the Old and New World.

8. Describe the phenomenon known as a Bore or Aegre, and mention some of the localities where it has been specially observed.

THIRD YEAR STUDENTS.

NATURAL PHILOSOPHY.—*Examiner, Professor Everett.*

1. State precisely what is meant when it is asserted that "the perpetual motion" is impossible.

2. Investigate the equation to the path of a projectile in vacuo.

3. Prove the formula $T = \pi \sqrt{\dfrac{l}{g}}$ for a simple pendulum.

4. If the height of a rough inclined plane be to the length as 3 to 5, and a weight of 10 lbs. can just be supported by friction alone, find the force which, acting along the plane, would be just sufficient to draw the weight up.

5. Two weights of 2 lbs. and 5 lbs. balance on a uniform heavy lever, the arms being in the ratio of 2 to 1 : find the weight of the lever.

6. Investigate the position of the geometrical focus after refraction, when a pencil of rays is incident in air, upon a plane surface of glass whose index of refraction is μ.

7. If the surface of the glass in the preceding question were concave with radius of curvature r, investigate the relation which would exist between conjugate focal distances.

8. Compare the internal and external diameters of a hollow sphere of copper which will barely float in water, the specific gravity of copper being 9.

Answer also questions 3, 4, 5, 6, 9, of the second year paper.

MEDICAL SCHOLARSHIPS.—SECOND YEAR STUDENTS.

ANATOMY AND PHYSIOLOGY.—*Examiner, Dr. Redfern.*

1. Name the specimens numbered 1 to 10 and describe the special characteristics of each on which your opinion is founded.

2. Describe the ligaments and all the movements of which the temporo-maxillary articulation is capable, and state their uses.

3. Describe carefully the whole actions of the trapezius, the pectoralis major, and the pectoralis minor muscles respectively, and the uses of each.

4. State the nature and objects of the act of primary digestion, and the way in which the different parts of this act are allotted to different parts of the alimentary canal.

5. Give a short account of the structure of each of the valves connected with the heart, together with the mode of action and uses of each.

NATURAL HISTORY.—*Examiner, Dr. Cunningham.*

ZOOLOGY.

1. Give an account of the general structure of the Echinoidea.

2. Describe the exo-skeleton in an insect.

3. Give a brief account of the various modifications of the respiratory system in the sub-kingdom Mollusca.

4. What are the distinguishing characters of the Pteropoda?

5. Describe the structure of the gill flap in an osseous fish.

6. In what classes of Vertebrata does the quadrate bone occur, and what are its homologies?

7. Give a brief account of the different forms of placenta.

8. Give the names of the orders of Mammalia of which indigenous representatives are met with in the British islands.

BOTANY.

1. What is the nature of the fruit in the following plants :—Vine, Potato, Gooseberry, Raspberry, Mulberry, Strawberry, Foxglove.

2. Describe the structure of a ripe seed.

3. Briefly describe the nature of the germination in Dicotyledons, Monocotyledons, and Acotyledons.

4. State some of the principal objections to the employment of the Linnean system of classification.

5. By what characters may the following allied orders be distinguished from each other :—Compositæ, Dipsaceæ, Calyceræeæ, and Valerianaceæ.

6. Minutely describe the flower of an Orchid, and mention in what manner fertilisation is usually effected.

7. Mention the orders to which the following genera belong :—Veronica, Alchemilla, Æsculus, Carpinus, Castanea, Tulipa, Galanthus, Crocus.

CHEMISTRY.—*Examiner, Dr. Andrews.*

1. How would you determine the amount of heat disengaged in the combination of bodies with oxygen?

2. What would be the increase of a given volume of air in being heated from $0°C$ to $250°C$?

3. Give an account of the methods, analytical and synthetical, by which the composition of water has been exactly determined?

4. How is hypochlorous acid prepared, and what are its properties

5. Describe the preparation and properties of the bisulphide of carbon, and state the relation in composition between the sulpho-carbonates and carbonates.

8. State in symbols the reaction which takes place when fluoride of silicon comes into contact with water.

7. Explain what is meant by the equivalency of an element, and write the constitutional or graphic formulæ of the following compounds :— H_2O, CO_2, SO_3, N_2O_3, and NH_4Cl.

What are the sources, chief properties, and uses of the nitrates of potassium and sodium ?

9. Give an account of aluminium and of its compounds with oxygen and chlorine.

10. Describe the chief ores of copper and the chemical tests for that metal.

11. What are the sources of thallium and its distinctive properties ?

12. Describe the mode of performing the ultimate analysis of such a body as urea.

13. State the composition of the series of hydrocarbons called olefines, and describe the general methods by which they can be prepared.

14. Write the formula of methyl alcohol on the type of marsh gas, and show how the other monatomic alcohols of the same series may be derived from it by replacement of one or more hydrogen atoms.

15. How is hydrocyanic acid prepared, and what are its tests ?

16. What are the distinguishing properties of blood and bile ?

Third Year Students.

Anatomy and Physiology.—*Examiner, Dr. Redfern.*

1. Name the specimens numbered 1 to 10, and describe carefully the distinctive characters of each.

2. Describe the mechanism by which the foot can be applied to the irregularities of the surface of the ground. Mention the parts which are compressed and those which are made tense when the weight of the body is borne by the foot.

3. Describe the movements of the tongue and hyoid bone in deglutition, and mention the muscles which produce each movement respectively.

4. What changes take place in the composition of muscle and blood when muscle contracts. Give full evidence in proof of each statement you make.

5. State the order and periods of eruption of the temporary and of the permanent teeth, and describe the process of eruption and the way in which it is produced.

6. State the uses of nerves and nervous ganglia.

Practical Chemistry.—*Examiner, Dr. Andrews.*

1. 100 grammes of a solution of hydrocyanic acid gave 12 grammes of cyanide of silver on the addition of a soluble salt of silver ; what was the composition of the solution ?

2. How many grammes of (yellow) phosphate of silver will be obtained by precipitation from 50 grammes of crystallized phosphate of sodium (Na_2HPO_4, $12H_2O$) ?

3. What are the blow-pipe tests for alumina, magnesia, and oxide of zinc ?

4. How would you determine the strength of a solution of arsenic acid ?

5. What are the tests for silver, gold, and platinum ?

6. How would you distinguish salicine from quinine ?

7. How would you analyze an alloy of copper, tin, and zinc ?

8. How would you discover the presence of ordinary alcohol if mixed with methylic alcohol ?

9. What are the characteristic properties of nicotine ?

10. What are the distinctive properties of arseniuretted and antimoni-urotted hydrogen ?

[The Candidates were also examined in qualitative analysis.]

Fourth Year Students.

Anatomy and Physiology.—*Examiner*, Dr. Redfern.

Anatomy.

1. Name the specimens numbered 1 to 10, and describe carefully the distinctive characters of each.

2. Describe the origin and course of the following arteries and branches of arteries :—Thyroid arteries ; anterior cerebral ; anterior spinal ; superior intercostal ; anterior thoracic ; posterior intercessous of forearm ; princeps pollicis.

3. Give a careful and complete account of the capsule of the hip-joint.

4. Write a list of the branches of the great sciatic nerve and of the sciatic plexus together, in the order in which the branches successively arise.

5. The parts superficial to the masseter muscle having been dissected, state how you would proceed with the dissection of the zygomatic region, and mention the parts you would meet with in their proper order.

Physiology.

1. Describe the whole structure of a bone corpuscle as it occurs in the living body, and its function.

2. What is known of the action of gland cells and the changes taking place in them in connexion with secretion.

3. What evidence have we that the structure of parts of the body is changed during the performance of the function of nutrition ? Give illustrations of the effects of increase in the quantity of blood supplied to particular parts.

4. State the evidence by which Harvey believed he had proved that the blood moves in a circle.

5. State the characters of the sensibility of the anterior roots of the spinal nerves, as demonstrated by Majendie and Longet.

Surgery.—*Examiner*, Dr. Gordon.

1. Describe the position of the head of the humerus in the sub-coracoid dislocations, the condition of the scapular muscles and the mode of reduction which is attended with least muscular tension or resistance.

2. Describe the bursae around the knee-joint, their various morbid conditions, and the treatment.

3. Describe the operation of ligaturing the superficial femoral artery

in the middle of the thigh, mentioning the parts successively exposed as *Appendix,* you proceed in the operation. 　　　　　*No. 8.*

4. Describe the course and source of abscesses met with in the groin, *Scholarship* and their differential diagnosis. 　　　　*Examina-tions.*

MATERIA MEDICA.—*Examiner,* Dr. J. Seaton Reid.

1. Name our chief sedative medicines.

2. Write prescriptions for the internal use of each in a fluid form for an adult.

3. Name our anti-periodic medicines.

4. Write prescriptions for the internal use of each by an adult.

5. What ingredients enter into the composition of the Mistura Sennæ Composita?

6. Write a prescription for its use by an adult.

7. What are the medicinal properties of Extractum Physostigmatis, and its dose?

8. Write a prescription for its use by an adult in a fluid form.

9. How much opium is in a scruple of Pulvis Kino Compositus, and in Pulvis Cretæ Aromaticus c. Opio?

10. How many grains are in a "gramme."

11. Name the medicines on the table, and classify them therapeutically.

MEDICINE.—*Examiner,* Dr. Cuming.

1. In what diseases is an abnormally slow pulse met with?

2. Describe the ascending and descending respiration, and mention the circumstances under which it is found.

3. Give the symptoms and treatment of laryngismus stridulus.

4. Give the pathology of hæmatoma of the dura mater.

5. Give the pathology and treatment of fatty liver.

6. State the general course of the eruption in variola, scarlet fever, typhus, and varicella.

7. Give the physical signs of cirrhosis of the lung.

MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN.—*Examiner,* Dr. R. F. Dill.

1. State the names of our oxytocic medicines.

2. State the means we have at our disposal for exciting uterine action.

3. State the circumstances under which it may be considered necessary to puncture the membranes.

4. What are the phenomena of the different stages of labour?

5. What is understood by the terms "maternal dystocia" and "fœtal dystocia."?

6. State the probable results arising from premature rupturing of the membranes, and escape of the liquor amnii.

7. State briefly a case of placenta prævia, its symptoms and management. State also wherein accidental hæmorrhage differs from unavoidable hæmorrhage.

8. What are the displacements of the gravid uterus? How do they impede labour? How are they to be corrected?

9. Give a short account of our present knowledge of the anatomy of the placenta, more particularly the maternal, and the fœtal circulation.

10. What are the signs of life and death of the fœtus in utero?

11. What are the symptoms and signs of syphilis in an infant? When and where do they appear first? Describe the treatment.

MEDICAL JURISPRUDENCE.—*Examiner, Professor Hodges, M.D., F.C.S.*

1. State the symptoms produced by a poisonous dose of phosphorus.

2. What are the *post mortem* appearances found in cases of poisoning by phosphorus?

3. Mention the poisonous dose of extract of Belladonna, the symptoms produced by it, and the methods required for its identification.

4. State the classes to which the following poisons belong :—Phosphorus, Oxalic acid, Strychnine, Aconite.

5. Mention the average period and doses in which the following poisons have been found to cause death :—Opium, Cyanide of Potassium, Cantharides, Strychnine.

6. What is the earliest period of uterine life at which a child may be born living and viable?

7. What is meant by the state of the lungs called "Atelectasis"?

8. Describe the appearances which were presented in the dead body of a woman, when death has taken place after delivery at the full period.

LAW SCHOLARSHIPS.—FIRST YEAR STUDENTS.

REAL PROPERTY AND CONVEYANCING.—*Examiner, Professor Molyneux.*

1. State the elements essential to constitute a surrender by operation of law.

2. Three denominations of land were in 1830 granted : the first, "unto and to the use of A and his heirs, to the use of B (then a married man) and his heirs."

The second, "to A and his heirs, to the use of B and C and their heirs."

The third, "to the use of A for life, remainder to the use of B and his heirs."

B afterwards died intestate, leaving his wife surviving ; did any right survive to her? State the ground of the answer in each case.

3. What construction does the law put upon a limitation in a deed to a person and his heirs male?

4. A, being possessed of a term years in land, assigns it to B and the heirs of his body : what interest does B take?

5. Describe the estates, in character and quantity, taken by the following limitations :—

"To A (a widow) during her life, provided she continue a widow and unmarried ; and after her marriage to B and his heirs, during her life ; and after her decease to her heirs."

"To C and D, brothers, and the heirs of their bodies."

"To E and F (husband and wife) and G, and their heirs."

6. Lease for 50 years if C D shall so long live.

Lease to C D for his life or 50 years, whichever shall last longest.

What are the qualities and tenures of those demises?

7. What qualification may be attached to an estate tail, at common law, which would be void if attempted in the limitation of an estate in fee simple?

8. Where an estate in land is conveyed to a person against his will, and another descends upon him by inheritance, which he does not wish to accept, by what several legal instruments can he discharge himself of those estates?

9. Into what two classes are estates upon condition divided? And in what particular do the rights and power of persons taking such estates differ?

10. How and at what period did estates tail originate; and what object was sought to be attained by the Statute? And what was the state of the law prior to the enactment?

11. In what respect did the abolition of Real Actions affect assurances of land?

12. In the case of intestacy what different modes of devolution of title are incident to Freehold and Chattels Real respectively?

JURISPRUDENCE.—*Examiner*, Professor Leslie.

1. Explain the following propositions:—(1) "A sovereign government has no legal rights against its subjects." (2) "Limited monarchy is not monarchy." (3) "Every supreme government is a monarchy or an aristocracy."

2. (1) Explain, according to Austin, the distinction between civil injuries and crimes. (2) Criticise the distinction drawn by Blackstone.

3. Explain historically the growth of Roman Equity.

4. What are the two features which, according to Sir H. Maine, Roman and English Equity have in common?

5. "The law of the middle ages relating to women carries the stamp of its double origin." Explain this.

6. What is the peculiar difficulty of accounting for the origin of primogeniture? How does Sir H. Maine solve the problem?

7. Explain clearly the cause of the different proportions of criminal and civil law in archaic and mature jurisprudence, respectively.

8. What are the marks of sovereignty, according to Austin?

9. Define the terms, Positive Law; General Jurisprudence; Civil Liberty.

10. Is International law positive law, or not, and why?

SECOND YEAR STUDENTS.

EQUITY.—*Examiner*, Professor Molyneux.

1. Taking into account the *principles* of Law and Equity as distinguished from the *administration* of those systems, in what sense alone can the fusion of Law and Equity be entertained?

2. In what respect does moral or natural Equity differ from that administered in our Courts of Equity so far as the jurisdiction and authority of the Court is concerned?

3. How does the sense of the expression "*equity of the statute*" differ from the *distinctive system* as administered in our *Courts of Equity* ?

4. State the respective nature of and distinction between the "*exclusive*," "*concurrent*," and "*auxiliary*" heads of jurisdiction of the Court of Chancery ; and give some instances under each head.

5. In what instances will Courts of Equity exercise jurisdiction even although the plaintiff is *in pari delicto*.

6. Within what limits does the Court of Chancery apply the maxim "*æquitas sequitur legem*," when called upon to put a construction on written instruments ?

7. What principle is common to Courts of Equity and Law in the construction of wills ?

8. State some cases in which a party not having *actual notice* will be held bound by *constructive notice*.

9. What are the limitations within which Courts of Equity grant relief under the head of mistake ?

10. Where a written contract has been based in fraud of one of the contractors, how is the jurisdiction of the Court exercised where that party is plaintiff or defendant respectively ?

11. In what respect are the Statutes against voluntary conveyances more stringent in their operation than the principle of equity under the head of fraud as previously administered by the Court of Chancery ; and how are they less extensive in their application as to persons interested ?

12. How far are contracts in restraint of trade held void ?

JURISPRUDENCE AND CIVIL LAW.—*Examiner*, Professor Leslie.

1. " The chief object of the following pages is to indicate some of the earliest ideas of mankind, as they are reflected in Ancient Law, and to point out the relation of those ideas to modern thought."—(*Ancient Law, Preface.*) Adduce examples of the relationship between archaic and modern ideas here referred to.

2. " The early forms of jural conceptions contain, potentially, all the forms in which law has subsequently exhibited itself." Adduce examples of the process of evolution here referred to.

3. Trace some of the leading changes in Roman law from the Twelve Tables to the Codifications of Justinian, inclusive.

4. Explain historically the origin of Roman Equity.

5. Legal conceptions and phraseology undergo, according to Sir Henry Maine, " a process of gradual specialization." Give examples from Roman Law.

6. Give a historical account of the law of *usucapio*, and explain the cause of its great importance in Roman law, prior to Justinian's reforms.

7. Give, from Maine's *Village Communities* and *Ancient Law*, that author's explanation of the origin of feudalism.

8. Explain the Roman terms—*Heres, Necessarii Heredes, Sui Heredes.*

9. Compare the English with the Roman law of testamentary succession.

10. Compare the English with the Roman law of intestate succession.

11. Give a concise account of the Roman law of servitudes.

12. Explain the terms—*Emphyteusis ; Cessio in Jure.*

THIRD YEAR STUDENTS.

COMMON LAW.—*Examiner,* Professor Molyneux.

1. What is a *Bottomry bond*? and what are the limits within which its provisions are valid?

2. When the indorsee of a bill of exchange wishes to give time for payment to an acceptor, what precaution is it necessary to take with respect to other parties on the bill?

3. In the case of contracts by an agent, his principal being then undisclosed, state the rights and the liability respectively of the latter, the extent to which such right and liability are qualified, the leading rules as to liability of principal when the agent has exceeded the authority given, and any distinction recognised when the principal is resident abroad.

4. What is the difference between simple contract and speciality? State the circumstances essential to the validity of each.

5. How do the rights and liabilities of parties vary in respect of privity of contract and privity of estate?

6. In what respect can a wife contract so as to bind her husband? And under what circumstances does such right cease to exist?

7. Name the several contracts required by the Statute of Frauds to be in writing.

8. Where a grant is on the whole capable of some construction, although the language is ambiguous, in whose favour is such contract to be interpreted? State the reason of the answer.

9. What is an estoppel?

10. State the only instances in which a carrier is not liable for the loss of goods intrusted to him.

11. How does a general lien differ from a special lien?

12. A gentleman is in the habit of sending his servant to a shop to purchase goods on credit. The servant misapplies some of the goods to his own use. Has the seller any remedy against the master on the ground of implied contract?

If such a course of dealing have existed, but upon the *last occasion* the master has given the servant money to pay for the article then purchased, has the seller any remedy against the master for the value of the last-mentioned article?

13. Is a warranty, made subsequent to a sale, valid? State the reason of your opinion.

JURISPRUDENCE AND CIVIL LAW.—*Examiner,* Professor Leslie.

1. Compare the distinction between *res mancipi* and *res nec mancipi* with that between real and personal property.

2. Compare the English with the Roman law of testamentary succession.

3. Compare the English with the Roman law of intestate succession.

4. Mention the leading changes in Roman law effected by Justinian.

5. State the *triplex divisio juris* of Ulpian. Show that the *duplex divisio* was, notwithstanding the passage from Ulpian, followed in the Institutes?

7. How do you explain the origin of the distinction between the Law

of Persons and the Law of Things, in Roman Law, and the order in which they are placed in the Institutes?

8. State the general law of *alluvion*, and the exception in the case of *agri limitati*.

9. Explain the following terms—*Cessio in jure, Res dominans, Res fungibles*.

10. Explain the terms *Commodatum, Mandatum*.

11. State and criticise the distinction in the Institutes between public and private law.

12. What are, according to Austin, the principal differences between Roman and English Equity? Is his account quite accurate?

SENIOR SCHOLARSHIPS.—MODERN LANGUAGES.

FRENCH.—*Examiner*, Professor Meissner.

I. Translate into French :—

Immediately after the conclusion of the peace, the French forces left Scotland, as much to their own satisfaction as to that of the nation. The Scots soon found that the calling to their assistance a people more powerful than themselves, was a dangerous expedient. They beheld with the utmost impatience those who had come to protect the kingdom, taking upon them to command it; and on many occasions they repented the rash invitation which they had given. The peculiar genius of the French nation heightened this disgust, and prepared the Scots to throw off the yoke before they had well begun to feel it. The French were, in that age, what they are at present—one of the most polished nations in Europe. But it is to be observed, in all their expeditions into foreign countries, whether towards the south or north, that their manners have been remarkably incompatible with the manners of every other people. Barbarians are tenacious of their own customs, because they want knowledge and taste to discover the reasonableness and propriety of customs which differ from them.—ROBERTSON.

Philological Questions :

1. Mention some of the principal marks of distinction of the three main dialects of the Langue d'oïl.

2. Explain the pronouns *ce, cette, celui, leur mains*.

3. *Blanc, candide ; ouest, occident ; sud, midi*. Remark on the etymologies of these words.

GERMAN.—*Examiner*, Professor Meissner.

Translate into German :—

Charles Lamb was born on the 10th February, 1775, in the Inner Temple, where he spent the first seven years of his life. His parents were in a humble station, but they were endued with sentiments and with manners which might well become the gentlest blood ; and fortune, which had denied them wealth, enabled them to bestow on their children some of the happiest intellectual advantages which wealth ever confers. His father, Mr. John Lamb, who came up a little boy from Lincoln, fortunately both for himself and his master, entered into the service of Mr. Salt, one of the benchers, who, growing old, was enabled to appreciate and reward his devotedness and intelligence, and to whom he became, in the language of his son, "his clerk, his good servant, his friend, his guide, his auditor, treasurer."

Translate from English—

Unter allen seltsamen Geschöpfen ist der Mensch in seiner natürlichen Beschäftigung das einzige, das zur Erreichung seiner Zwecke auf den Gebrauch von Werkzeugen ange wiesen ist. Die Fähigkeit, sie zu benutzen, beruht nicht allein auf der Beschaffenheit der Arme, sondern hängt in jeder hohem Maße von der Empfindung und von einer außeror dentlichen Feinfühligkeit und Sicherheit der Berührungsoberflächen ab. Legt ein Blinder in unseren Hand, leicht umfaßt, so daß seine Bewegungen einigen Spielraum haben, so berührt er an verschiedenen Stellen die Oberfläche unserer Haut. Jenes seltsamer unmittel baren Gefühl, das wir in jedem Augenblicke von zwei Lagen unserer Glieder haben, setzt uns deutlicher, ob diese augenblicklich getroffene Stelle unserer Hand durch eine große oder kurzem, durch eine sanftere oder magere Teile unter einander verbunden werden können; dieselbe Form und Lage schreiben wir dem Tone zu, je diese Empfindungen vermischt. Gerät der Stab in Bewegung, so berührt von Moment zu Moment die getroffenen Punkte unserer Haut; für jeden dieser Augenblicke berechnet unser sinnliche Phantasie die Richtung der Linie, in welcher der Stab vorübergeht liegt, und ergreift zugleich aus Vorstellung des Punktes, in welchem als ihre Richtungen einander schneiden.—LOTZE.

Translate into Italian—

The genius of the Roman people, their military education, and the spirit of their laws, concurred in estranging them from commerce and naval affairs. It was the necessity of opposing a formidable rival, not the desire of extending trade, which first prompted them to aim at mari time power. Though they soon perceived that in order to acquire the universal dominion after which they aspired, it was necessary to render themselves masters of the sea, they still considered the naval service as a subordinate station, and reserved for such citizens as were not of a rank to be admitted into the legions. In the history of the Roman republic, hardly one event occurred that marks attention to navigation or any farther than as it was instrumental towards conquest. When the Roman valour and discipline had subdued all the maritime states known in the ancient world; when Carthage, Greece, and Egypt had submitted to their power, the Romans did not imbibe the commercial spirit of the conquered nations. Among that people of soldiers, to have applied to trade, would have been deemed a degradation of a Roman citizen.—ROBERTSON.

HISTORY.—Examiner, Professor Yonge.

1. Give an account of the principal events in the history of the Long Parliament from its meeting to the breaking out of open war.

2. What were the Petition of Right: the Declaration of Right: and the Bill of Rights.

3. Give an abstract of the arguments of the ministry and of the opposition on the right and policy of imposing taxes on the American colonies.

4. Give some account of four of the following battles: Steenkirk, Malaga, Almanza, Malplaquet; Fontenoy, Minden, Bunker's Hill, Rodney's victory of Fort Royal, the Nile, Toulouse.

5. What were the chief objects of the policy of Cardinal Richelieu.

6. What was the cause of, and what was the principal object aimed at in the Treaties of Partition.

7. Of what character were the relations between the English and French governments at different periods between the years 1660 and 1760.

8. Who were the Encyclopedists; and what was their influence on the subsequent history of their country.

In a brief Essay, examine and compare the careers and characters of Sir Robert Walpole and Lord Chatham.

CHEMISTRY.—*Examiner, Dr. Andrews.*

1. What are the properties which characterise the "critical temperature," and how does this temperature serve to distinguish the gaseous state, properly so called, from the vaporous state?

2. Define what is meant by isomorphous bodies, and state the more important groups of isomorphous elements.

3. Give an account of electrolysis and of its application to the reduction of such metals as potassium and magnesium.

4. How would you analyze feldspar—a compound of silica, alumina, and potash which is not attacked by acids?

5. Calculate the molecular weight of a compound having a vapour density of 2.08 (air=1) and the following composition.

Carbon,	...	40.00
Hydrogen,	...	6.67
Oxygen,	...	53.33

6. Give an account of the paraffine or marsh gas series of hydrocarbons—their artificial formation and the conditions under which they occur ready formed in nature.

7. How is acetylene prepared, and what is its principal properties?

8. What acids are formed by the oxidation of ordinary glycol (ethene alcohol)? State in symbols the reactions.

9. How is mannite prepared from glucose, and what is supposed to be the theoretical relation between these bodies?

[The Candidates were also examined in chemical analysis.]

NATURAL HISTORY.—*Examiner, Dr. Cunningham.*

ZOOLOGY.

1. Give an outline of the classification of Annelida.

2. Describe the structure of the exo-skeleton in a typical Crustacean.

3. Give the names and diagnostic characters of the principal groups of Arachnida.

4. Describe the structure of the mouth in a Dipterous, and in a Coleopterous insect.

5. Mention the more noteworthy peculiarities in the skeleton of a Chelonian.

6. Give a brief account of the digestive system of Aves.

7. State the diagnostic characters and geographical distribution of Insectivora.

8. Refer to their orders the following genera of Mammalia :—Phascolomys, Tapirus, Dicotyles, Sciurus, Nasua, Chrysochloris, Hylobates.

BOTANY.

1. Describe the structure of an ovule, and give the names and distinguishing characters of the principal modifications.

2. How have the colouring matters of the leaves of plants been grouped by Sorby in accordance with chemical and spectroscopic analysis?

3. Give a brief description of the structure of the epidermis of plants with its appendages.

4. Explain what is meant by the terms di- and tri-morphism, and mention instances of the phenomenon.

5. State the characters of the order Primulaceæ, and mention the names of the British genera.

6. By what characters are Araliaceæ distinguished from Umbelliferæ?

7. To what orders do the following genera of well-known plants belong :—Hedera, Stellaria, Fuchsia, Pelargonium, Symphoricarpus.

GENERAL CLASS EXAMINATION AT THE END OF THE SESSION 1873–74.

FIRST YEAR STUDENTS.

HISTORY AND ENGLISH LITERATURE.—*Examiner*, Professor Yonge.

1. Give a brief account of the different invasions by which Britain was overrun ; and examine the influence which those events had on the gradual formation of the English language.

2. Trace the stages through which the language spoken in England passed between the times of Alfred and Elizabeth.

3. What changes, according to Dr. Latham, are gradually taking place in the language ?

4. How far are the objections which are usually made to the introduction of new words well founded ; and what limitations should be placed on such introduction, in order to maintain the purity of the language ?

5. What parts of verbs are used at times as equivalent to nouns substantive ; and how far does such an use of them in English correspond to what we find in other languages ?

6. Examine and discuss the question which has been raised by some grammarians how far English nouns substantive or adjective, and English verbs, can be said to have genders, numbers, cases, degrees of comparison, tenses, and moods.

7. Explain the rules by which the proper use of *shall* and *will* is regulated.

8. What are the rules which Dr. Latham lays down with respect to the " Composition " of words ; and what are the principal kinds of composition which he enumerates ?

9. Examine the construction of sentences dependent on the conjunctions, *if, though, &c.*

10. Write out correctly the following sentence :—

The general long hesitated which plan he should adopt. If he was to advance, then, even if he was attacked, he might by a timely retreat, prevent evil consequences arising. If he received the attack, then disaster might be, and, if he was killed, must be irretrievable, since none but him could maintain discipline. When both plans were dangerous all that he could do was to choose the least of the two evils. Had I, said he, but one regiment of those who are on their way to join me, I would fear nothing, the case would be different.

1. To what extent does Shakespeare adhere to historical truth in his historical plays ? Illustrate your observations from Henry VIII.

2. Point out any passages which seem dictated by a desire to please Queen Elizabeth.

3. Write notes on the following passages :

My surveyor is false : the o'er great Cardinal
Hath show'd him gold.

We must no stint
Our necessary actions, in the fear
To cope malicious censurers.

E 2

> Orpheus with his lute made trees
> And the mountain tops that freeze
> Bow themselves when he did sing.
> He is returned in his opinions.

4. Comment on the style and genius of Pope, illustrating your remarks by passages from the Satires and Epistles.

5. Write notes on the following passages :—

> Above a patron, though I condescend
> Sometimes to call a minister my friend.

> Out with it Dunciad, let the secret pass,
> That secret to each fool, that he's an ass.

6. What opinion does Pope express of his literary contemporaries and predecessors ; of Milton, of Dryden, of Shakespeare, of Waller, and of any of the French poets ?

7. Give a brief sketch of Macaulay's description of the Normans.

8. What influence, according to Macaulay, did the "insular situation" of England exert on the general policy of the country ?

9. What was the state of education and literature in England in the latter half of the 17th century ?

SECOND YEAR STUDENTS.

LOGIC.—*Examiner, Professor Park.*

1. Briefly explain and criticise :—

"Logic is the science of the Laws of Pure or Formal Thinking."

"It is only with facts of mediate knowledge that logic can deal."

"Logic is both an art and a science."

"Logic takes no cognizance of Induction."

2. State in tabular form, and explain, the division of terms you prefer. What are the *momenta* in the formation of the general term ! Illustrate the distinction between an impossible concept, an unreal concept, and the concept of an unreal thing.

3. Describe the nature of logical definitions and the modes by which they are obtained.

4. Give as full an account as you can of the logical predicate, and of modern controversies regarding it.

5. Point out the subjects and the predicates of, and designate by the technical symbols :—

"All is not false which seems at first a lie."

"The welfare and the happiness of society."

"That alone is the truly salutary discipline which visits on all conduct . . . the natural consequences."

"Not a house but seems
To give assurance of content within."

"Death is the one and only certain thing."

"The sunshine of his all-believing mind
There is no doubt or fear to overcast."

"Many a deed of terrible uprightness
By thy sweet love was sanctified."

6. Explain the nature, and enumerate the more important kinds, of immediate inference. Define the various forms of oppositions.

7. What are the peculiarities of the third figure? "Determine the moods and figures of syllogism from the following conditions :—(a) That the middle term is twice universal; (b) that the middle term is subject of an affirmative premiss, and that the minor term is universal; (c) that an extreme is universal in premiss and particular in conclusion."

8. Construct and reduce Dalisi and Doksamosk, and a sorites of five propositions with an *E* conclusion or a dilemma.

9. "The force of the syllogism consists in an inductive assertion with an interpretation added to it."

10. Discuss the nature of Material Logic and Mr. Fowler's statement of its problems.

11. Explain—"It is but seldom that we find an instance of what logicians call 'perfect induction' . . . and still more rarely can such an induction have any important purpose."

12. Mr. Herbert Spencer remarks—"If we compare different kinds of animals, or different races of men, or the same animals or men when differently fed, we find . . . that the degree of energy essentially depends on the nutritiveness of the food." According to what methods is this inference drawn, and what are the characteristics of each?

13. Describe the nature of Mr. Mill's Deductive Method and its most important applications.

14. The scientific explanation of a fact frequently consists in information about other facts?

15. Explain and examine—"It is often in our power to obtain an analogy where we cannot have an induction, in which case reasoning from analogy ought to be admitted, however with all the uncertainty which properly belongs to it."

16. State fully the technical name of each of the following arguments, and the logical rule it exemplifies; and, in case of error, point out the fallacy :—

(a) "Blood cannot think; but the soul of man thinks; therefore, the soul of man is not blood. But (according to Scripture) the soul of a brute is his blood; therefore, the soul of man is different from that of a brute."

(b) "Hard substances may be elastic, for ivory is both hard and elastic.

(c) An intelligent jury declines to find her guilty, and, therefore, her purity is established.

(d) All whales are animals; this is not a large whale, therefore, it is not a large animal.

(e) The Tongans hold that Wellington and Napoleon the First were both Tongans, having drifted away in canoes to Europe. If a white man laugh at this, they say, "They were great men, weren't they?" "Certainly." "Then they must have been Tongans. How stupid you are?"

(f) $\frac{9}{10}$ A is B, $\frac{9}{10}$ A is C, $\therefore \frac{81}{100}$ A is BC,

MINERALOGY, GEOLOGY, AND PHYSICAL GEOGRAPHY.—*Examiner,*
Dr. Cunningham.

1. State the characters and chemical composition of Calcite, Arragonite, Fluor-spar and Gypsum, and mention to what crystalline systems they belong.

2. State the characters of Amphibole, and its varieties.

3. What are the causes of slaty cleavage, and of what class of rocks is it mainly characteristic?

4. Give an account of the vegetation of the Carboniferous period.

5. What is the geological horizon (or range) of Trilobites?

6. What is the geological horizon of Cystoideae, and of Blastoideae?

7. State the characters and distribution of Plesiosauria.

8. Mention some of the genera of Mammalia which are characteristic of the Eocene strata, and state what you know with regard to the structural peculiarities of any of them.

9. How are Inarticulate distinguished from Articulate Brachiopoda? and give examples of genera belonging to each group.

10. To what groups of rocks are the following strata referable—Primordial Zone of Barrande, Eifel Limestone, Rothtodte-liegende, St. Cassian and Hallstadt beds, Solenhofen slate, Hippurite limestone, Calcaire, Grossier, Molasse, and Antwerp Crag; and in what countries do they occur?

11. Briefly describe the warm currents of the Pacific Ocean.

12. What is the character of the Llanos and Silvas, and where do they occur?

ZOOLOGY.—*Examiner,* Dr. Cunningham.

[Junior Students omit questions 8, 10, and 12. Senior Students omit questions 5, 6, 9, and 13.]

1. Give the names and limits of the terrestrial zoogeographic regions described in the lectures, and give a few examples of mammals and birds characteristic of each region.

2. What is meant by parthenogenesis? Give examples of its occurrence.

3. State the characters by which Radiolaria are distinguished from Rhizopoda.

4. Describe the structure of a sclerodermic coral.

5. Give an account of the development of a Cestoid worm.

6. State the characters of the class Gephyrea, and mention in what aspects the members of this group differ from the Holothuroidea, with which they were formerly associated.

7. Describe the segmentation of a typical Crustacean.

8. Describe the modifications of the parts surrounding the mouth exhibited in Coleoptera, Diptera, and Lepidoptera.

9. State the distinguishing characters, and give an outline of the classification of Elasmobranchii.

10. Give an account of the circulation in the Frog, Axolotl, Lizard, and Crocodile.

11. Mention some of the more noteworthy points in the structure of the skull in a bird.

12. What are the distinguishing characters of the Traguline Artiodactyla?

13. State the more important anatomical characters of Edentata; and the geographical distribution of the families.

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*Appendix,
No. 5.*

*General
Class Ex-
amination.*

FIRST YEAR STUDENTS.

ENGLISH LAW.—*Examiner*, Professor Molyneux.

LAW OF PROPERTY AND CONVEYANCING.

1. What right does the Leasehold Conversion Act reserve to the grantor of a fee-farm grant under that statute, to which the grantor in an ordinary fee-farm grant is not entitled?

2. B dies, since the inheritance Act 3 & 4 Wm. IV., seised of lands in fee-simple, which he derived from his maternal grandfather, leaving his own father and a great aunt, sister of his said grandfather, him sole surviving. Which of those persons inherit the estate?

3. When an estate is limited to A B and his heirs on the part of his mother, and A B dies, leaving a paternal uncle and a maternal uncle his sole surviving, who shall inherit?

4. What is a base fee?

5. Grant of Blackacre to A and his heirs, and if he die under the age of 21 years, then to C and his heirs.

Grant of Whiteacre to A and the heirs of his body, and if he should die under the age of 21 years, then to C and his heirs.

A died under the age of 21 years, leaving a son; who, on arriving at age, suffered a recovery of both estates, and sold them to D.

Can he make good title to both or either of those estates? If not, state the reason.

6. What estate or estates are created by a limitation to A B and his issue in a deed, and what construction is put upon the same words in a will?

7. How does the Landlord and Tenant Act of 1860 (Irish) affect the relation of landlord and tenant in regard to tenure?

8. Define a lease in reversion.

9. By what provisions of the Irish Acts for the registration of deeds are purchasers protected? And in what respect do those Acts afford a better protection to purchasers than the English local registry of deeds Acts?

10. Testator seised of lands in fee-simple, devised them to A for life, with remainder to his children, in fee-simple, who should attain the age of twenty-two. What estates are created by such limitations?

11. Wife seised of lands in fee simple; what interest in same is the husband entitled to?

12. Under what circumstances will a title of forty years be insufficient, notwithstanding the 17th section of the Statute of Limitations, 3 & 4 Wm. IV.?

13. On what principle, and to what extent does a court of equity construe an executory contract differently from a final executed instrument, where the words in both are the same?

14. How does a quasi estate tail arise?

15. Why are contingent remainders of trust estates indestructible?

16. What was a general occupant? And what is the statutable disposition of the estate which has been substituted for it?

17. What is the difference in law between a direct series of limitations of a chattel by deed, and a series of like limitations of a freehold?

18. What are emblements, and as between what parties do they arise?

19. Upon the death of all the executors of a will intestate, in what

way is the administration of the personal assets of the testator provided for?

20. What deeds require enrolment to give them validity?

21. If a devisee anticipate impeachment of the will, what precautionary steps can he take to establish his right, and in what court?

SECOND YEAR STUDENTS.

EQUITY AND BANKRUPTCY.

1. State the essential difference between a mortgage and a conditional sale.

2. Under what head of equitable jurisdiction does the Court of Chancery assume to rectify executed marriage settlements in conformity to the marriage contract?

3. In what instance is parol evidence admissible to impeach a contract in the whole or part, notwithstanding the Statute of Frauds?

4. Give some instance of a resulting trust in equity.

5. When there is a fund vested in trustees, and conflicting assignees of the cestuy-que trust claim it: what are the grounds upon which their rights are to be determined by a court of equity?

6. State the difference between ademption and satisfaction of legacies.

7. What is there in the nature of a *judgment-mortgage,* registered under the Irish statute, which renders it a less reliable security than a mortgage by deed duly registered?

8. From the comparative structure of suits at law and in equity, why must a judgment in the former be less comprehensive than a decree in the latter?

9. By what statutable provision has the devisee of an estate operated with a mortgage been deprived of an equitable right in the administration of the testator's assets, theretofore possessed by him?

10. State the nature of relief administered by courts of equity to mortgagor and mortgagee, respectively. And in what respect does the decree pronounced in a mortgagee's suit in England differ from that made in Ireland upon a similar case?

11. What are the appropriate remedies administered by courts of law and equity, respectively, in relation to the breach of contracts? And on what ground, and to what extent, do courts of equity assume that concurrent jurisdiction?

12. Give some instances in which courts of equity apply the principle that equity assumes that to have been done which ought to be done?

13. What is the distinction between legal and equitable assets? And in what respect do they differ in the mode of their administration by the court?

14. What is the nature of a lien, and how is it enforced by courts of equity?

15. What new principle has been imported into the last Bankruptcy Act which had previously distinguished bankrupts from insolvents?

16. As between what objects of testator's bounty does contribution lie in discharge of his debts? Describe each class of contributors according to the priority of application of their respective property so devised or bequeathed.

17. What acts of a bankrupt are impeachable as against purchasers

or creditors, which would be valid but from the statutable incapacity of the bankrupt?

18. In what case is the possession of the plaintiff in a suit for specific performance of a contract by parol for sale or a lease of lands not deemed a part performance to take the case out of the Statute of Frauds?

19. State the principle on which the doctrine of election, as held by courts of equity, is founded, and the occasions upon which it is applied.

20. In enforcing a contract at the suit of the vendor what are the requisite proofs necessary for the plaintiff to sustain his case?

21. State some of the instances in which a court of equity will issue an injunction to stay proceedings at law.

22. What are the circumstances under which a bill in equity lies to perpetuate testimony? And how and when is such testimony available to the party who seeks to use it?

THIRD YEAR STUDENTS.

COMMON AND CRIMINAL LAW.

1. Action of libel brought by executor for slander of his testator in his lifetime.

Demurrer to the plaint; whether is the plaintiff or defendant entitled to judgment? State the reason for the answer.

2. How far have the penal consequences of conviction for felony been relaxed, irrespective of the punishment awarded by the court?

3. Goods consigned to A B. While they are at sea A B sells them to C D. What act of A B will be equivalent to actual delivery of the goods to C D?

4. What substantial averments must an indictment contain?

5. A B gives a verbal order for goods to the value of £500 to the traveller of C D; C D ships the goods, consigning them to A B; the vessel and cargo are lost at sea. Whether is A B or C D to bear the loss? State the reason of the answer.

6. How far has the jurisdiction of the courts of common law been approximately assimilated by statute to that of courts of equity?

7. What is the nature of contributory negligence? And what is its effect when proved upon the trial of an action of tort?

8. What is a challenge to the array? And how is the question of its validity in point of law to be raised?

9. What is the extent of a carrier's liability at common law?

10. In what different forms of action may the right to the possession of personal chattels be raised? State each form of action, and what is the evidence appropriate to each as necessary to sustain it?

11. Give some instances where the right of property in personal chattels, and the right to their possession may be in different persons.

FOURTH YEAR STUDENTS.

ENGLISH LAW.

1. Assumpsit by vendor against vendee on a sale of an estate in fee simple; what proofs must the plaintiff be prepared to make in support of his action? If the action be by vendee against vendor, what must the plaintiff be prepared to prove?

2. What evidence is essential to let in proof of a communication objected to as privileged?

3. Tenant in fee simple in undisturbed possession for 60 years, sells the estate; no act in reference to the lands appears on the registry of deeds. Is there any further search or inquiry necessary in reference to the title? And if so, state what?

4. In what instances is the deed of a married woman valid?

5. In what proceedings is the judgment final, although an estoppel has not been pleaded?

6. Blacksere having descended to A B, from his maternal grandfather, A B makes his will, devising the estate to his own right heirs; and dies, leaving C D, his eldest son; C D dies intestate, and without issue. State in what line of collaterals is his heir to be found, and the grounds of such opinion.

7. What provision in the Irish Common Law Procedure Act must be resorted to if such be sufficient to raise to the proper issue, so as to dispense with a plea of new assignment?

8. In what class of ejectment is the judgment conclusive? And in what class is the judgment *not conclusive?* As to the second class, is there any and what mode by which a vexatious repetition of the ejectment can be restrained? And as to the first class, give the reason why the judgment is conclusive.

9. What peculiar advantages were provided in the structure and jurisdiction of the "Incumbered Estates Court," and its successor, the "Landed Estates Court," which the Court of Chancery did not afford? And how, from the structure and procedure of the latter, was that defect inherent?

10. In the administration of the real and personal estate of a testator how does a charge of debts and legacies upon the real estate differ in its operation from a direction that the personal estate shall be exonerated from payment of debts and legacies?

11. What were the rights of a lessee under defective execution of a power before the Statute the 13 and 14 Vict., in relation to such leases? And what rights have been since conferred upon lessees under defective leases under powers?

12. What is the law of England as to the effect of wills of real and personal estate by persons domiciled abroad?

13. What is the nature and function of proceedings by *scire facias* on judgments, and the analogous proceedings under the Irish Common Law Procedure Act?

14. In what manner has the "Landed Estates Court" been utilised in carrying out the machinery of the office for the registering title, under the 28 and 29 Vict., ch. 88, entitled "An Act for the recording of titles in Ireland"?

15. What change in the construction of wills has been effected by the 7 Wm. IV. and 1 Vict., ch. 26, in relation to limitations after death, without issue? What was the effect of the enactment upon such limitations over? And why was such a change introduced?

FIRST YEAR STUDENTS.

JURISPRUDENCE.—*Examiner,* Professor Leslie.

1. Features of both archaic and advanced law appear in medieval law. Give examples of both, and explain their appearance together.

2. Give examples of "the principles, notions, and distinctions," which, according to Austin, form the objects of general jurisprudence.

3. Do the foregoing principles, notions, and distinctions, exist in archaic systems of law? Give your reasons.

4. Give Austin's definitions of general jurisprudence; the science of legislation; positive law; civil liberty; civil injury; crime; constitutional law; international law; jura in rem; jura in personam; quasi contracts.

5. Give examples of the process of gradual specialisation of legal ideas and terms of which Sir H. Maine speaks.

6. The history of Roman contract "gives a complete account of the march of ideas from one landmark of jurisprudence to another." Explain this proposition.

7. Account for the division between law and equity in Roman jurisprudence.

8. Account for the division between law and equity in the English legal system.

9. Trace the connexion between Roman law and modern international law.

10. What are, according to Bentham, the four great objects of law? Examine their relative importance, and show their connexion.

11. What great change has taken place in accordance with Bentham's principles, in respect of the admissibility of evidence in civil cases?

12. On what grounds does Austin object to the division of law into public and private?

SECOND YEAR STUDENTS.

JURISPRUDENCE AND CIVIL LAW.—*Examiner*, Professor Leslie.

1. Explain the terms—*arrogatio; obligationes quasi ex contractu; pignus; hypotheca; bona vacantia; beneficium inventarii; necessarii heredes; sui heredes; quarta Antonina; quarta Falcidia.*

2. Classify the Roman law of things under its leading heads and subdivisions.

3. Classify the Roman law of contracts, and give examples of each.

4. Give an account of the changes made by Justinian:
   (1) in respect of the conveyance of property;
   (2) in respect of the rights of cognates;
   (3) in respect of usucapio;
   (4) in respect of quiritarian and bonitarian ownership.

5. Classify Roman servitudes and give examples of each.

6. Did any features of archaic law survive in the Roman law of the age of Gaius?

7. Compare the English with the Roman law of testamentary succession.

8. Compare the English with the Roman law of succession *ab intestato.*

9. Explain the origin of equity in Roman and English law respectively.

10. Is any provision made in Roman law for the protection of what Blackstone calls absolute rights of persons?

11. What is meant by succession *per stirpes* and *per capita,* respectively?

12. What are the points of contact with Roman law in feudalism?

THIRD YEAR STUDENTS.

POLITICAL ECONOMY.—*Examiner*, Professor Leslie.

1. (1.) Does form part of the cost of production of agricultural produce or not, and why?

(2.) Does it form part of the cost of production of any commodities?

2. Explain and criticise the proposition that profit depends on the cost of labour.

3. Does a general rise of wages tend to raise prices or not, and why?

4. Explain the following propositions:—

(1.) "The demand for money differs from the demand for other things in this, that it is limited only by the means of the purchaser."

(2.) "The value of money, other things being the same, varies inversely as its quantity. This is a property peculiar to money."

(3.) "There really is a closer connexion between the value of money and its quantity, than between the values of other things and their quantity."

5. Does the portion of gold and silver which is converted, not into coin, but into plate, ornaments, and other commodities, affect prices or not, and why?

6. It has been often asserted that the value of gold and silver coin depends on the consent of the public to employ the precious metals as money. Show the fallacy of that statement.

7. How does the progress of society tend to affect the prices of agricultural and manufactured produce respectively, and also wages, profits, and rent respectively? Give your reasons in each case.

8. How does indirect taxation conform to, or violate each of Adam Smith's four maxims?

9. What would be the incidence of a heavy tax on realized property, and why?

10. Explain the following proposition:—" By taxing exports, we may, in certain circumstances, produce a division of the advantage of the trade more favourable to ourselves."

11. Explain the following:—" They are in the right who maintain that taxes on imports are partly paid by foreigners; but they are mistaken when they say that it is by the foreign producer."

12. Explain the incidence of the following taxes:—

(1) a tax which takes a fixed proportion of all agricultural produce:

(2) a tax of a fixed sum, say a shilling per bushel:

(3) a fixed tax of so much per cultivated acre, without distinction of value.

13. How did the protective duty on corn violate the maxim that a tax should take as little as possible out of the pockets of the people, over and above what it brings into the treasury of the State?

14. Explain and criticise the following:—" It is no sufficient ground of apprehension to English producers, to find that some other country can sell cloth in foreign markets a trifle cheaper than they can themselves afford to do in the existing state of prices in England."

FOURTH YEAR STUDENTS.

CONSTITUTIONAL AND INTERNATIONAL LAW.—*Examiner, Professor Leslie.* General Class Examination.

1. Trace the progress of the English Constitution in respect of the checks upon the Royal authority at the accession of Richard II., Henry IV., and Henry VII., respectively. If you discover any inconsistency in Hallam's account, point it out.

2. What were "the three estates of the Realm"?

3. Who were the electors for counties under the 7 Henry IV., c. 15, and the 8 Henry VI., c. 7, respectively?

4. What were the grievances complained of in the Petition of Right?

5. What improvements were made in the Law of Treason in the reigns of William III. and Anne?

6. Explain the terms:—Allegiance; Sovereignty; Limited Monarchy; Constitutional Law; a Government *de jure* as opposed to a Government *de facto.*

7. Describe the Constitution of the United States.

8. Explain, with examples, the terms *lex loci rei sitae, lex domicilii, lex loci contractus, lex fori,* in connexion with the Conflict of Laws, and add a definition of Conflict of Laws.

9. A, who is a British subject, marries in Switzerland C, a lady also a British subject, who is within prohibited degrees of relationship according to British, but not according to Swiss law. He afterwards resides and dies intestate in France, leaving land and movable property in England, Switzerland, and France: C, and two sons of the marriage surviving him. Relatives of A in England claim his property in all three countries, on the ground that the marriage with C was illegal according to British law. What principles would you apply to the case with regard to the devolution of the property, movable and immovable, in the three countries respectively?

10. State as clearly as you can the principles applicable to contraband of war.

11. State the rules applicable to blockade.

12. Explain the meaning of "qualified neutrality."

13. On what grounds has the alleged distinction between the liability to capture of the private property of an enemy's subjects on sea and on land respectively, been defended? How far does the distinction in fact exist, according to the actual practice of hostilities?

14. State the rules applicable to the purchaser's title to property captured in war and sold by the captor.

15. Give a concise account of the practice of England and France respectively, prior and subsequently to the outbreak of the Crimean war, in reference to the maxims "free ships, free goods;" "enemy's ships, enemy's goods."

THIRD YEAR STUDENTS.

ENGLISH LITERATURE.—*Examiner, Professor Yonge.*

1. Mention the principal writers of the Elizabethan era, of the Restoration period, of the age of Anne, and of that of George III., with a particular account of the life and works of some one author.

2. Give the plot of Richard II. *or* of Macbeth, with at least one quotation illustrating the character of one of the principal personages in the play.

3. Write notes on the following passages :

> High stomach'd are they both and full of ire.

> It must be great that can inherit us
> So much as of a thought of ill in him.

> Impeach'd and baffled here.

> Shall I . . with pale beggar fear impeach my height—
> Since we cannot atone you we shall see
> Justice design the victor's chivalry.

Or on these :

> Paddock calls.

> Valour's minion.

> Till he disbursed at St. Colmes' inch
> Ten thousand dollars to our general use.

> All the quarters that they knew
> I' the shipman's card.

> My thought, whose murder yet is but fantastical
> Shakes so my single state of man, that function
> Is smother'd in surmise.

4. Of what period of English are Chaucer's poems examples ? Describe the transitions through which the language of these islands passed before it arrived at its present form.

5. Give a short sketch of Sir William Temple's life ; describing especially the negotiations in which he was concerned between 1665–1670, and his scheme for an administration.

Or

Mention the comparison which in his Reflections on the French Revolution Burke constitutes between the English and French Governments.

Also his explanation of the exemptions of the noblesse.

Also his description of the character of the English Revolution of 1688.

Also his description of the use which that statesman ought to make of history.

And his description of the character of Henry IV.

6. Juvenal draws admonitions from the careers of Sejanus, Hannibal, Cicero, and Demosthenes. What characters in modern history does Johnson, in his Vanity of Human Wishes, use for the same purpose ?

Or

What special dispositions and capacities does Milton ascribe to the different fallen angels ?

Milton travelled in Italy in his youth. Does any passage in either the First or Second Book of Paradise Lost allude to an illustrious Italian with whom he made acquaintance ?

Give any instances that occur to you of his imitation of the classical poets in these two books.

7. What is the character which Goldsmith attributes to the French people in his Traveller ?

Or

What character does Byron give of Rousseau, Voltaire, Gibbon, Julius Cæsar, Napoleon, Cromwell ?

8. Give a short account of English lyric poetry, comparing it in any points that may occur to you, with that of Greece and Rome.

SUBJECT FOR ESSAY.

The Drama in general, with special reference to the Drama in England, which may also be compared with that of either Greece or France.

THIRD YEAR STUDENTS.

HISTORY.—*Examiner*, Professor Yonge.

1. Describe the main principles of the feudal system, and point out how far they influence our present Constitution.

2. Trace the descent of Queen Victoria from William the Conqueror.

3. One of the principal features in the history of the middle ages is every country is the constant struggles which took place between the civil and the ecclesiastical power. What are the chief incidents of this struggle in England?

Or

Give an account of the causes which at different times led Queen Elizabeth, Charles I., and James II., to quarrel with the Parliament.

4. Give an account of Archbishop Langton, the Duke of Suffolk, and the Duke of Bedford.

Or

Of Lord Burleigh, Sir Robert Walpole, and Lord George Sackville.

5. Take the battles of Dam, of Sluys, of Navarette, of Wakefield, of Herrings, of Verneuil, of Towkesbury?

Or those of Ivry, Rocroi, Senef, Steinkirk, Dettingen, Minden, Salamanca, and give the dates, the names of the nations engaged, and of the commanders on each side, the causes and the results.

6. Give an account of the mise of Lewes, the treaty of Bretigny, the treaty of Troyes, or of the treaties of Utrecht, Versailles, and Campo Formio.

7. Examine the respective claims of Henry VI. and Richard Duke of York to the throne in 1450.

Or

Describe the circumstances under which England became possessed of Gibraltar, Minorca, and Malta, and under which Strasburg, Lorraine, and Avignon became annexed to France.

8. What kings of England were connected with the Crusades?

Or

What were the relations between England and France in the periods 1665–1678, 1715–1722, 1755–1765?

9. Of the kings who succeeded to the English throne between 1066 and 1509, how many were the lawful heirs to the throne, and how many, and who were usurpers?

Or

Who were the first persons who filled the office of Prime Minister in France, and in England? Give some account of them.

SUBJECT FOR ESSAY.

Give a brief sketch of the history of England from 1214–1295, dwelling especially on the periods 1214, 1220, 1260, 1268, 1290, 1295.

Or

Draw a parallel between the English Rebellion of 1642–1662, and the French Revolution of 1789–1815.

THIRD YEAR STUDENTS.

METAPHYSICS.—*Examiner*, Professor Park, M.A.

1. Explain.—"Metaphysics naturally divides itself into two branches, —Psychology,—and Ontology."

Our observations of many current phenomena of consciousness "should be oblique rather than direct."

"Our conscious presence, like the air we breathe, comes to us as a compound."

2. Sketch briefly but distinctly the functions of our nervous system. Define reflex action, and explain the technical terms in this sentence— "The tract of gray matter in the spinal cord to which the afferent nerves of a limb come, and from which the efferent nerves issue, is practically the ganglionic centre of that limb, having very much of automatic independence."

3. Classify the leading kinds of sensations. Among which do we find a predominance of the relational elements? That "such murstational feelings as smells have exceptional powers of calling up remembrances of past scenes," is compatible with the fact that "sight is the representative sense *par excellence*"?

4. "Instead of maintaining with Pyrrho and Sextus that the senses present to us, not that which is, but only that which seems to be, Berkeley emphatically proclaims the contrary"?

Show that his theories of vision, matter, causation, and abstract ideas, are related parts of his system.

5. "What we see is a very minute fragment of what we think we see"?

6. Examine carefully Dean Mansel's statements—

(a.) "Time has thus, in common with space, the characteristics of universality and necessity, which appear to indicate a subjective condition."

(b.) "The proper objects of the bodily senses...exist, as such, only in my consciousness."

(c.) "Some consciousness of extension is simultaneous with the earliest exercise of sensation."

(d.) "The test of the real existence of matter is resistance."

7. "The fault of the phrase, association of ideas, is rather in the narrowness of the last, than in the inadequacy of the first word"? Illustrate the laws of transference, obliviscence, and heteropathic association.

8. What is "the main point of distinction between phantasm and remembrance"? "Slow men are usually good in memory, quick men and apt learners are good in reminiscence"? Give instances of "the gradual lapse of memory into automatic coherence."

9. Mention the more important stages in the development of language. The visible sign is indirectly representative? Phonetic symbols, especially "picture syllables," are the germs out of which alphabetic writing grew?

10. State and examine the usual distinctions between Knowledge and Faith. Explain—"Ordinary Knowledge consists in referring a new object to a class of objects, that is to say, to a generalised image with which we are already acquainted"?

11. State the law of relativity and some of its more important consequences. *Sentire semper idem, et non sentire ac idem recidunt*? Can you reconcile Sir W. Hamilton's remark, "The conception of the one

term of a relation necessarily implies that of the other," with his *Appendix, No. 2.*
doctrine of memory?

12. Are there any cognitions which, "though elicited *through* experience, do not derive their authority or trustworthiness *from* experience"? *General Examination.*

13. Describe the two leading forms of the experience-hypothesis of necessary truth.

14. Explain Mr. J. S. Mill's assertion—"I do admit some other sources of knowledge than sensation and the memory of sensation, though not than consciousness and the memory of consciousness."

ANATOMY AND PHYSIOLOGY.—*Examiner, Dr. Redfern.*

[First Year Students are required to answer questions 1, 2, 3, 4, 5; Second Year, 1 3, 5, 6, 7; and Third and Fourth, 4, 6, 7, 8, 9.]

1. Mention the constituents of blood, and the proportions of each.

2. Describe the microscopical, chemical, and physical characters of costal cartilage.

3. Give an account of the parotid gland, its position and relations; with the characters and uses of its secretion.

4. Give a description of the ligaments of the liver, uterus, and bladder.

5. State what you know of the physiology of the liver.

6. What ought to be the amount and character of the food of a healthy adult man? How are its various constituents ordinarily disposed of in the alimentary canal? What is the daily quantity of fæcal matter and what parts of the food can be found in it?

7. Describe the mode of action of the cavities and valves of the heart, the length of time taken up in filling and emptying each, with the periods of production and the cause of the sounds.

8. Describe the fornix, its position, connexions, structure, and function.

9. Give an account of the structure of the placenta, and of its mode of formation.

PRACTICAL ANATOMY.—*Examiner, Dr. Redfern.*

[In addition to making a Dissection, First Year Students are required to answer questions 1, 2, 3, 4, 5; Second Year, 2, 4, 5, 6, 7; and Third Year, 4, 6, 7, 8, 9.]

1. Describe the characters of the markings on the clavicle and femur for the attachments of muscles and ligaments.

2. Give an account of the ligaments and movements at the hip joint.

3. State the attachment, insertion, and action of the flexor sublimis digitorum and of the flexor profundus digitorum muscles, and specify the points of difference in their actions.

4. Mention in regular order the parts which may be exposed by dissection under the deltoid and gluteus maximus muscles, respectively; indicating where each part is to be looked for, and how it is to be exposed.

5. Describe the inguinal canal, with the parts which form it and those which are contained in it.

6. State the course and relations of the three stages of the right subclavian artery.

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7. State the course, relations, and distribution of the pudic artery and its branches.

8. Give an account of Meckel's ganglion, with the course, distribution, and function of its nerves.

9. Describe the course and arrangement of the veins in the thoracic cavity.

SURGERY.—*Examiner, Dr. Gordon.*

1. Describe the fractures and dislocations of the upper end of the femur, their prognosis and differential diagnosis and treatment.

2. Describe the spiroid fracture of the tibia and its treatment.

3. Describe the signs which usually characterise malignant from non-malignant tumours.

4. Describe the constitutional and local treatment of scrofulous enlargement of the glands of the neck.

FRENCH.—MEDICAL STUDENTS.—*Examiner, Professor Meissner.*

Translate into French :

The mountains of the earth contain gold, silver, iron, copper, diamonds, and other precious stones. I have the courage to tell the truth. They would have more money, if they had been less prodigal. You speak too much, my friend ; speak less. I was finishing my translation, when he entered. We shall accompany our brother as far as London. We should defend our country, if it were attacked. The poorest men are often the most generous. Your brother is idle ; mine works day and night. These pens are good for nothing ; give me two or three of those. Keep the secrets which I have confided to you. I want my dictionary, return it to me. I will try and explain these rules. Have you learned these rules? No, I have not learned them. Where did you get this dictionary? I have bought it at a bookseller's. Do you remember ever having seen this man? No, I cannot call it back to mind. What is the matter? Nothing of importance. You are wrong and he is right. It is better to come too soon than too late. Never speak ill of anybody. He has done all in his power. I am going to have my books bound. He does nothing but play. I have just read the newspaper. Believe me, sir, the best is to say nothing at all.

Translate into English :

On arriva à la porte de la grotte de la déesse, où Télémaque fut surpris de voir, avec une apparence de simplicité rustique, des objets propres à charmer les yeux. Il est vrai qu'on n'y voyait ni or, ni argent, ni marbre, ni colonnes, ni tableaux, ni statues : mais cette grotte était taillée dans le roc, en voûte pleine de rocailles et de coquilles ; elle était tapissée d'une jeune vigne qui étendait ses branches souples également de tous côtés. Les doux zéphyrs conservaient en ce lieu, malgré les ardeurs du soleil, une délicieuse fraîcheur ; des fontaines, coulant avec un doux murmure sur des prés semés d'amarantes et de violettes, formaient en divers lieux des bains aussi purs et aussi clairs que le cristal ; mille fleurs naissantes émaillaient les tapis verts dont la grotte était environnée. Là on trouvait un bois de ces arbres touffus qui portent des pommes d'or, et dont la fleur, qui se renouvelle

dans toutes les saisons, répand le plus doux de tous les parfums. Ce bois semblait couronner ces belles prairies, et formait une nuit que les rayons du soleil ne pouvaient percer. Là on n'entendait jamais que le chant des oiseaux, ou le bruit d'un ruisseau qui, se précipitant du haut d'un rocher, tombait à gros bouillons pleins d'écume, et s'enfuyait au travers de la prairie.—FÉNELON.

GREEK.—*Examiner*, Professor MacDougall.

FIRST YEAR STUDENTS.

I.—Translate perspicuously these lines from the 1st Book of the *Ilias*:—

> αὐτὰρ, ἐπεί μ' εἴσατ ο κα ὶ οὐλοχύτας προβάλοντο,
> αὐέρυσαν¹ μὲν πρῶτα κα ὶ ἔσφαξαν κα ὶ ἔδειραν,¹
> μηρούς τ' ἐξέταμον κατά τε κνίσῃ ἐκάλυψαν
> δίπτυχα² ποιήσαντες, ἐπ' αὐτῶν δ' ὠμοθέτησαν.¹
> καῖε δ' ἐπὶ σχίζῃς ὁ γέρων, ἐπὶ δ' αἴθοπα οἶνον
> λεῖβε· νέοι δὲ παρ' αὐτὸν ἔχον² πεμπώβολα¹ χερσίν.
> αὐτὰρ, ἐπεὶ κατὰ μῆρε κάη κα ὶ σπλάγχνα πάσαντο,¹
> μίστυλλόν τ' ἄρα τ ἄλλα κα ὶ ἀμφ' ὀβελοῖσιν ἔπειραν,
> ὤπτησάν τε περιφραδέως² ἐρύσαντό τε πάντα.
> αὐτὰρ, ἐπεὶ παύσαντο πόνου² τετύκοντό τε δαῖτα,¹
> δαίνυντ', οὐδέ τι θυμὸς ἐδεύετ ο¹ δαιτὸς ἐΐσης.¹
> αὐτὰρ, ἐπεὶ πόσιος² κα ὶ ἐδητύος² ἐξ ἔρον¹ ἕντο,¹
> κοῦροι μὲν κρητῆρας² ἐπεστέψαντο² ποτοῖο,
> νώμησαν² δ' ἄρα πᾶσιν ἐπαρξάμενοι δεπάεσσιν.¹
> . . . .
> οἱ δὲ πανημέριοι² μολπῇ θεὸν ἱλάσκοντο¹
> [καλὸν ἀείδοντες παιήονα, κοῦροι Ἀχαιῶν¹]
> μέλποντες ἑκάεργον· ὁ δ ὲ φρένα τέρπετ' ἀκούων.
> ἦμος δ' Ἠέλιος κατέδυ κα ὶ ἐπὶ κνέφας ἦλθεν,
> δὴ τότε κοιμήσαντ ο παρὰ πρυμνήσια² νηός·
> ἦμος δ' ἠριγένεια φάνη ῥοδοδάκτυλος² Ἠώς,
> κα ὶ τότ' ἔπειτ' ἀνάγοντ ο μετὰ στρατὸν εὐρὺν Ἀχαιῶν·
> τοῖσιν δ' ἴκμενον² οὖρον ἵει ἑκάεργος Ἀπόλλων.
> οἱ δ ὲ ἱστὸν στήσαντ' ἀνά θ' ἱστία λευκὰ πέτασσαν·¹
> ἐν δ' ἄνεμος πρῆσεν μέσον ἱστίον, ἀμφὶ δὲ κῦμα
> στείρῃ πορφύρεον μεγάλ' ἴαχε νηὸς ἰούσης·
> ἡ δ' ἔθεεν κατ ὰ κῦμα διαπρήσσουσα² κέλευθον.
> αὐτὰρ, ἐπεὶ ῥ' ἵκοντο κατ ὰ στρατὸν εὐρὺν Ἀχαιῶν,
> νῆα μὲν οἵ γε μέλαιναν ἐπ' ἠπείροιο ἔρυσσαν
> ὑψοῦ ἐπὶ ψαμάθοις, ὑπ ὸ δ' ἕρματα² μακρὰ τάνυσσαν·¹
> αὐτοὶ δ ὲ σκίδναντο κατ ὰ κλισίας² τε νέας¹ τε.

II.—1. Parse accurately and minutely the words to which the figure 1 is attached, annexing the Attic forms where these differ from the Homeric, and giving such tense-forms of the irregular verbs as you know to have been in use.

2. Derive or decompound every word to which the figure 2 is attached.

3. Restore any letters (such as ϝ or σ), which in the above text have been either omitted or replaced by other letters.

4. Explain the use of the genitive case in lines 10 and 12.

5. A few illustrative remarks, if apt and concise, may be added.

SECOND YEAR STUDENTS.

I.—Translate perspicuously the annexed passage from XENOPHON'S *Memoirs of Socrates.*

ἔφη δ' αὐτὸν ὁ κατήγορος καὶ τῶν ἐνδοξοτάτων τῶν ὑπὸ τῆς ποιήσεως καὶ τοὐτους᾽ μαρτυρίοις᾽ χρώμενον διδάσκειν τοὺς συνόντας κακούργους εἶναι καὶ τυραννικούς. Ἡσιόδου μὲν τό,

"Ἔργον δ' οὐδὲν ὄνειδος, ἀεργίη δέ τ' ὄνειδος,"

τοῦτο δὴ λέγειν αὐτόν, ὡς ὁ ποιητὴς κελεύων μηδενὸς ἔργου μήτε ἀδίκου μήτε αἰσχροῦ ἀπέχεσθαι, ἀλλὰ καὶ ταῦτα ποιεῖν ἐπὶ τῷ κέρδει. Σωκράτης δ' ἐπεὶ διομολογήσαιτο, ὅτι τὸ μὲν ἐργάτην εἶναι ὠφέλιμόν τε ἀνθρώπῳ καὶ ἀγαθὸν εἴη, τὸ δὲ ἀργὸν' βλαβερόν τε καὶ κακόν, καὶ τὸ μὲν ἐργάζεσθαι ἀγαθόν τὸ δ' ἀργεῖν κακόν,—τοὺς μὲν ἀγαθόν τι ποιοῦντας᾽ 'ἐργάζεσθαι᾽ τε καὶ 'ἐργάτας᾽ εἶναι, τοὺς δὲ κυβεύοντας᾽ ἤ τι ἄλλο πονηρὸν καὶ ἐπιζήμιον᾽ ποιοῦντας 'ἀργοὺς᾽ ἀπεκάλει. Ἐκ δὲ τούτων ὀρθῶς ἂν ἔχοι τὸ

"Ἔργον δ' οὐδὲν ὄνειδος, ἀεργίη δέ τ' ὄνειδος."

τὰ δ' Ὁμήρου ἔφη ὁ κατήγορος αὐτὸν εἰρηκέναι, ὡς ὁ ποιητὴς ἐπαινοίη' παίοντα τοὺς δημότας᾽ καὶ πένητας. Συκοφάντης δ' ἐστὶν ὅπερ λέγει [καὶ γὰρ λεωτὸν αὐτὸν γ' ὀκνεῖ εἶναι παίεσθαι], ἀλλ' ἔφη λέγειν τὸν μὴ ἀγαθὸν μήτε λόγῳ μήτε ἔργῳ ὠφέλιμον᾽ ὄντα καὶ μήτε στρατεύματι μήτε πόλει μήτε αὐτῷ τῷ δήμῳ [εἴ τι δέοι] βοηθεῖν ἱκανόν, ἄλλως τ' ἐὰν πρὸς τούτῳ καὶ θρασὺς μὴ᾽ ᾖ, τοῦτον πάντα τρόπον κωλύειν, κἂν πάνυ πλούσιος ὢν τυγχάνῃ. Ἀλλὰ φανερὸς ἦν καὶ δημοτικὸς καὶ φιλάνθρωπος ὤν. ἐκεῖνος γὰρ πολλοὺς ἐπιθυμητάς καὶ ἀστῶν καὶ ξένων λαβὼν οὐδένα πώποτε μισθὸν τῆς συνουσίας ἐπράξατο, ἀλλὰ πᾶσιν ἀφθόνως ἐπήρκει τῶν ἑαυτοῦ. ὧν τινες μικρὰ μέρη παρ' ἐκείνου προῖκα' λαβόντες πολλοῦ᾽ τοῖς ἄλλοις ἐπώλουν, καὶ οὐκ ἦσαν ὥσπερ αὐτὸς δημοτικοί· τοῖς γὰρ μὴ ἔχουσι χρήματα διδόναι οὐκ ἤθελον διαλέγεσθαι.

II.—1. Derive or decompound every word to which the figure 1 is attached.

2. In regard to the nouns and verbs to which the figure 2 is attached, explain why each is presented in the case or the mode chosen by the writer.

3. Justify the employment of ἂν wherever it occurs, and also that of μή, μήτε, μηδενός, rather than οὐ, οὔτε, οὐδενός.

THIRD AND FOURTH YEAR STUDENTS.

Translate perspicuously the following passage from THUCYDIDES.

παρασκευάσαντο δὲ ἔν τε πλῷ νωτιαῖον ὡς ἐπ' τῆς στρατεύματι ναυμαχίᾳ τὸ πλεονίκεῖον σχήσοντες, καὶ τὰς πρᾴρας τῶν νεῶν Συννάμενοι ἐς ἔλασσον ἀπρατωτέρας ἐποίησαν, καὶ τὰς ἐπωτίδας ἐπέθεσαν ταῖς πρᾴραις, καὶ ἀντηρίδας ἀπ' αὐτῶν ὑπέτεινον πρὸς τοὺς τοίχους ὡς ἐπὶ ἓξ πήχεις ἐντός τε καὶ ἔξωθεν. ὃνπερ τρόπῳ οἱ Συρακόσιοι πρὸς τὰς τῶν Ἀθηναίων ναῦς· ἡμεῖς ἀντεναυπηγησάμενοι ἐλατὰ τὰ πρόρραθεν ἐγίνοντο διὰ τὸ μὴ ἀντιπρᾴροις᾽ μᾶλλον αὐτὸν᾽ ᾖ ἐκ περίπλου τοῖς χρὴ χρῆσθαι—οὐ λίασιον σφίσιν ἔσεσθαι εν τῷ μεγάλῳ λιμένι ναυμαχίαν οὖσαν ἐν ὀλίγῳ πολλαῖς ναυσὶν οὖσαν· πρὸς γὰρ χρήσιμον᾽ τοῦτο τοῖς Συρακοσίοις ἐσεσθαι. ἀντιπρᾴρους τε γὰρ τὰς ἐμβολὰς ποιουμένους ἀναρρήξειν τὰ πρᾴρσθεν αὐτοῖς στερίφοις καὶ παχεῖς τοῖς κοῖλα καὶ ἀσθενῆ παίουσι τοῖς ἐμβόλοις. τοῖς δὲ Ἀθηναίοις οὐκ ἔσοιτο αὐτῶν ἐν στενοχωρίᾳ οὔτε περίπλους οὔτε διέκπλους, ὅπερ τῆς τέχνης μάλιστα ἐπίστευον᾽ αὐτοὶ γὰρ κατὰ τὸ δυνατὸν τὸ μὴ ἐᾶν διεκπλεῖν ποιήσειν, τὴν δὲ στενοχωρίαν τοὺς Συρακοσίους παρέξειν. τῇ δὲ πρότερον ἀμαθία τῶν κυβερνητῶν δοκούσῃ εἶναι, τῷ ἀντίπρᾳρον ξυγκροῦσαι, μάλιστ' ἂν αὐτοὶ χρήσασθαι. πλεῖστον γὰρ ἐν αὐτῷ σχήσειν. τὴν γὰρ ἀνάκρουσιν οὐκ ἔσεσθαι σφίσι

Ἀθηναίοις ἐχθθουμένοις ἄλλοις ἤ τε τῆν γῆν, καὶ ταύτην δι' ὀλίγον [καὶ ἐς ὀλίγον], κατ' αὐτὸ τὸ στρατόπεδον τὸ ἑαυτῶν τοῦ δ' ἄλλου λιμένος αὐτοὶ κρατοῦσιν. καὶ ξυμ-βαρραίνοντος αὐτοῖς, ἢν νῦ βιάζωνται, ἐς ὀλίγον καὶ αὐτὸ τὸ αὐτὸ προσπίπτουσιν αὐτοῖς ἀλλήλους ταραβθένθαι τε σῶν ἀβάντων μάλιστα τοὺς Ἀθηναίους ἐν ἀστάτως ταῖς ξυν-νανμαχίαις, σὺτ ὄντος αὐτοῖς ἡ πάντα τὴν λιμένα τῆς ἀναχωρήσεως ὥσπερ τοῖς Συρα-κοσίοις. περιπλεῖσθαι δὲ ἐς τὴν εὐρυχωρίαν, οἷς αὐτῶν τὴν ἐπίπλευσιν ἀπὸ τοῦ πλείονος καὶ ἀνάγκασιν, οὐδυνήσονται αὐτοῖς, ἄλλως τε καὶ τοῦ Πλημμυρίου πολεμίου τε αὐτοῖς ἐσομένου καὶ τοῦ στόματος οὐ μεγάλον ὄντος τοῦ λιμένος.

In concise notes you may elucidate the manœuvres and devices here spoken of, as also any words, phrases, or constructions that may invite remark.

LATIN.—*Examiner, Professor Nesbitt.*

FIRST YEAR STUDENTS.

A. Translate :—

1. Ea P. Cornelio consuli causa fuit, cum Pisas navibus venisset exercita a Manlio Atilioque accepto throne et in novis ignominiis trepido, ad Padum festinandi, ut cum hoste nondum refecto manus consereret. Sed cum Placentiam consul venit, iam ex statūis movenda Hannibal, Taurinorumque unam urbem, caput gentis eius, quia volentes in amicitiam non veniebant, vi expugnarat; et iunxisset sibi non metu solum sed etiam voluntate Gallos accolas Padi, ni eos circumspectantes defectionis tempus subito adventu consul oppressisset. Et Hannibal movit ex Tauriniis, incertos, quae pars sequenda esset, Gallos praesentem se secutaros esse ratus. Iam prope in conspectu erant exercitus, con-venerantque duces sicuti inter se nondum satis noti, ita iam inutatae uterque quadam admiratione alterius. Nam Hannibalis et apud Romanos iam ante Saguuti excidium celeberrimum nomen erat, et Scipionem Hannibal eo ipso, quod adversus se dux potissimum lectus esset, praestantem virum credebat. Et auxerant inter se opinionem, Scipio, quod relictus in Gallia obvius fuerat in Italiam transgresso Hannibali, Hannibal et conatu tam audaci traiciendarum Alpium et effectu.

Write brief notes on *exercita accepto throne ; movit ex Tauriniis ; quae pars sequenda esset ; auxerant inter se opinionem.*

2. Hannibal rebus prius quam verbis adhortandos milites ratus, circumdato ad spectaculum exercita captivos montanos vinctos in medio statuit, armisque Gallicis ante pedes eorum proiectis interrogare inter-pretem iussit, ecquis, si vinculis levaretur armaque et equum victor acciperet, decertare ferro vellet. Cum ad unum omnes ferrum pug-namque poscerent, et deiecta in id sors esset, se quisque eum optabat, quem fortuna in id certamen legeret. Ut cuiusque sors exciderat, alacer inter gratulantes gaudio exsultans tripudiis arma raptim capiebat. Ubi vero dimicarent, is habitus animorum non inter eiusdem modo condicionis homines erat, sed etiam inter spectantes vulgo, ut non vincentium magis quam pereuntium fortuna laudaretur.

3. (a) Enumerate, with dates, the principal events between the first and second Punic wars.

(b) State and criticise Livy's arguments as to the place of Hannibal's passage of the Alps.

B. Translate:—

1. Potestne tibi haec lux, Catilina, aut huius caeli spiritus esse iucundus, quum scias horum esse neminem qui nesciat te pridie Kalendas Ianuarias Lepido et Tullo consulibus stetisse in comitio cum telo? manum consulum et principum civitatis interficiendorum causa paravisse? sceleri ac furori tuo non mentem aliquam aut timorem tuum, sed fortunam populi Romani obstitisse? Ac iam illa omitto—neque enim sunt aut obscura aut non multa commissa postea—quoties in me designatum, quoties consulem interfecere conatus es! quot ego tuas petitiones ita coniectas, ut vitari posse non viderentur, parva quadam declinatione et, ut aiunt, corpore effugi! Nihil adsequeris, neque tamen conari ac velle desistis.

Write brief notes on *in comitio*, and on *parva quadam declinatione et, ut aiunt, corpore*.

2. Quid tandem te impedit? Mosne maiorum? At persaepe etiam privati in hac re publica perniciosos cives morte multaverunt. An leges, quae de civium Romanorum supplicio rogatae sunt? At numquam in hac urbe qui a re publica defecerunt civium iura tenuerunt. An invidiam posteritatis times? Praeclaram vero populo Romano refers gratiam, qui te hominem per te cognitum, nulla commendatione maiorum, tam mature ad summum imperium per omnes honorum gradus extulit, si propter invidiam aut alicuius periculi metum salutem civium tuorum negligis.

(a) Enumerate the *leges de civium Romanorum supplicio* referred to in the text.

(b) Justify the statement *tam mature—extulit.*

C. Translate into Latin prose:—

Pass.

Now he first had it in his mind to make three new centuries of horsemen, and to call them after his own name. But Attus Naevius, who was greatly skilled in augury, forbade him. Then the king mocked at his art, and said, "Come now, thou augur, tell me by thy auguries whether the thing which I now have in my mind may be done or not." And Attus asked counsel of the gods by augury, and he answered, "It may." Then the king said, "It was in my mind that thou shouldest cut in two this whetstone with this razor: take them and do it, and fulfil thy augury." But Attus took the razor and cut the whetstone asunder. So the king obeyed his counsels, and made no new centuries.

Honrs.

The Spaniards remained three days in this hospitable place, after the departure of the envoys, when they renewed their progress. Although in a friendly country, they marched always as in a land of enemies, the horse and light troops in the van, with the heavy-armed and baggage in the rere, all in battle array. They were never without their armour,

lying down when their weapons by their sides. This unremitting and *Appendix,* restless vigilance was, perhaps, more oppressive to the spirits than even *No. 3.* bodily fatigue. But they were confident of their superiority in a fair General field, and felt that the most serious danger they had to fear from Indian Class Ex- warfare was surprise. "We are few against many, brave companions," amination. Cortès would say to them ; "be prepared, then, not as if you were going to battle, but as if actually in the midst of it."

Additional for Honors.

Translate, with brief notes :

1. Frigidus agricolam si quando continet imber,
   Multa, forent quæ mox cælo properanda sereno,
   Maturare datur.   Durum procudit arator
   Vomeris obtusi dentem, cavat arbore lintres,
   Aut pecori signum aut numerum impressit acervis.
   Exacuunt alii vallos furcasque bicornes,
   Atque Amerina parant lentæ retinacula viti.
   Nunc facilis rubea texatur fiscina virga ;
   Nunc torrete igni fruges, nunc frangite saxo.
   Quippe etiam festis quædam exercere diebus
   Fas et jura sinunt.   Rivos deducere nulla
   Religio vetuit, segeti prætendere sepem,
   Insidias avibus moliri, incendere vepres,
   Balantumque gregem fluvio mersare salubri.
   Sæpe oleo tardi costas agitator aselli
   Vilibus aut onerat pomis, lapidemque revertens
   Incusum aut atræ massam picis urbe reportat.

2. At, si quoes haud ulla viros vigilantia fugit,
   Ante locum similem exquirunt, ubi prima paretur
   Arboribus seges et quos digesta benutur,
   Mutatam ignoreti subito ne semina matrem.
   Quin etiam cæli regionem in cortice signant,
   Ut, quo quæque modo steterit, qua parte calores
   Austrinos tulerit, quæ terga obverterit axi,
   Restituant : adeo in teneris consuescere multum est.
   Collibus an plano melius sit ponere vitem,
   Quære prius.   Si pinguis agros metabere campi,
   Densa sere ; in denso non segnior ubeso Bacchus ;
   Sin tumulis acclive solum collesque supinos,
   Indulge ordinibus, nec setius omnis in unguem
   Arboribus positis secto via limite quadret.

3. PA. Falsus es.   CH. Non satis tibi esse hoc solidumst uisum
      gaudium,
   Nisi me lactasses amantem et falsa spe produceres.
   Habesa.   PA. Habeam ? ah nescis quantis in malis uorser miser,
   Quantasque hic consiliis mihi conflauit sollicitudines
   Meus carnufex.   CH. Quid istuc tant mirumst, de te si exemplum capit ?
   PA. Haud istuc dicas, si cognoris uel me uel amorem meum.
   CH. Scio : cum patre altercasti dudum, et is nunc propterea tibi
   Suscenset nec te quiuit hodie cogere illam ut duceres.
   PA. Immo etiam, quot tu minus scis acrumnas meas.
   Hæc nuptiæ non adparabantur mihi :
   Nec postulabat nunc quisquam uxorem dare.

Cn. Scio : tu coactus tua uoluntate es.   Pa. Mane :
    Nondum scis.   Cn. Scio equidem illam ducturum esse te.
Pa. Quor me enicas? hoc audi.   numquam destitit
    Instare, ut dicerem me ducturum patri :
    Suadere, orare usque adeo donec perpulit.
    Cn. Quis homo istic?   Pa. Danos.   Cn. Quamobrem?
Pa. Nescio, nisi mihi
    Deos satis fuisse iratus, qui auscultauerim.
    Cn. Factum hoc est, Dane?   Da. Factum.   Cn. Hem, quid ais, scelus?
    At tibi di dignum factis exitium duint.

4. Translate and explain :—

(a) Alternis idem tonsas cessare novales,
    Et segnem patiere situ durescere campum.

(b) Cum jam glandes atque arbuta sacrae
    Deficerent silvae et victum Dodona negaret.

(c) Sacra refer Cereri laetis operatus in herbis.

(d) Nec fuit indignum superis bis sanguine nost
    Emathiam et latos Haemi pinguescere campos.

(e) Omnia sint paribus numeris dimensa viarum.

(f) Oscilla ex alta suspendunt mollia pinu.

(g) Rejecit se in eum fleus quam familiariter.

(h) Ea lege atque omine, ut si te inde exemerim, ego pro te molam.

(i) Ego propter me illam decipi miseram sinam
    Quae mihi suum animum atque omnem vitam credidit,
    Quam ego animo egregie caram pro uxore habuerim?

5. (1) Scan the first five lines of the extract from Terence.

(2) Classify and account for the principal deviations of the comic
metres from the precepts of the Augustan age.

(3) State and illustrate the various uses of the *futurum exactum.*

(4) Give a brief sketch of the writings of Terence, and quote any
criticisms of ancient writers upon his literary merits which you may
remember.

SECOND YEAR STUDENTS.

Translate, with any necessary explanations :—

1. Sed attende, quaeso, quae sint consenta. Primum illa furia muli-
brum religionum, quae non pluris fecerat Bonam deam quam tres sorores,
impunitatem sri illorum sententiis adsecutus, qui quum infamous pl.
poenas a seditioso civi per bonos viros iudicio persequi vellet, exemplum
praeclarissimum in posterum vindicandae seditionis de re publica susta-
larunt : idemque postea non meum monumentum—non enim illae
manubiae meae, sed operis locatio mea fuerat,—monumentum vero senatus
hostili nomine et cruentis inustum litteris esse passi sunt. Qui me
homines quod salvum esse voluerunt, est mihi gratissimum : sed vellem
non solum salutis meae, quem ad modum medici, sed etiam, ut aliptae
virium et coloris rationem habere voluissent : nunc, ut Apelles Veneris
caput et summa pectoris politissima arte perfecit, reliquam partem
corporis inchoatam reliquit, sic quidam homines in capite meo solum,
elaborarunt, reliquum corpus imperfectum ac rude reliquerunt.

2. Sollicita equidem eram de rebus urbanis : ita tumultuosae contiones, ita molestae Quinquatrus adferebantur : nam ceterora nondum audiebamus. Sed tamen nihil me magis sollicitabat quam in his molestiis non me, si quae ridenda essent, ridere tecum : sunt enim multa, sed ea non audeo scribere. Illud moleste fero, nihil me adhuc his de rebus habere tuarum litterarum. Qua re etsi, quum tu haec leges, ego iam annuum munus confecero, tamen obviae mihi velim sint tuae litterae, quae me erudiant de rebus in republica, ne hospes plane veniam. Hoc melius quam tu facere nemo potest.

3. Translate into Latin prose :—

Tarquinius was a great and mighty king ; but he grievously oppressed the poor, and he took away all the good laws of king Servius, and let the rich oppress the poor, as they had done before the days of Servius. He made the people labour at his great works ; he made them build his temple, and dig and construct his drains ; and he laid such burdens on them, that many slew themselves for very misery ; for in the days of Tarquinius the tyrant it was happier to die than to live.

Additional for Honors.

1. Translate :

Ducem terruit dira quies : nam Quintilium Varum sanguine oblitam et paludibus emersum cernere et audire visus est velut vocantem, non tamen obsecutus et manum intendentis reppulisse. coepta luce miscuae in latera legiones, metu ac contumacia, locum deseruere, capto propere campo humentia ultra. neque tamen Arminius quamquam libero incursu statim proceupit. sed ut haesere caeno fossisque impedimenta, turbati circum milites, incertus signorum ordo, utque tali in tempore sibi quisque properus et lentae adversum imperia aures, irrumpere Germanos iubet, clamitans "en Varus eodemque iterum fato vinctae legiones!" simul haec et cum delectis scindit agmen equisque maxime vulnera ingerit. illi sanguine suo et lubrico paludum lapsantes excussis rectoribus disicere obvios, proterere iacentes. plurimus circa aquilas labor quae neque ferri adversum ingruentia tela neque figi limosa humo poterant. Caecina dum sustentat aciem, suffosso equo delapsus circumvenitur, ni prima legio sese opposuisset. iuvit hostium aviditas, omissa caede praedam sectantium ; eniseque legiones vesperascente die in aperta et solida. neque is miseriarum finis. struendum vallum, petendus agger, amissa magna ex parte per quae egeritur humus aut exciditur caespes ; non tentoria manipulis, non fomenta saucis ; infectos caeno aut cruore cibos dividentes funestas tenebras et tot hominum milibus unum iam reliquum diem lamentabantur.

2. Translate and explain :

(*a.*) Nam genitos Agrippa . . . necdum posita puerili praetexta principes juventutis adpellari, destinari consules specie recusantis flagrantissime cupiverat.

(*b.*) In nullius unquam suorum necem duravit.

(*c.*) Legata non ultra civilem modum, nisi quod populo et plebi quadringenties tricies quinquies.

(*d.*) Tributa aut vectigalia et necessitates et largitiones.

(*e.*) Quarum decumana maxime petebatur.

(*f.*) Obstrinxit iureiurando se non excessurum [numerum sc.]

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No. 8.

General
Class Ex-
amination.

3. Explain and derive :—

Fastigium, histrionalis, manipularis, gregarius, manipularis, gregarius, legionarius, stipendium, nonanus, vernacula, contamino, justitium, vicesima, patibulum, scrobs, utensilia.

Translate, with brief notes :—

1. Si potes avelli Circensibus, optima Sorae
   Aut Fabrateriae domus aut Frusinone paratur,
   Quanti nunc tenebras unum conducis in annum.
   Hic tibi notuque brevis nec reste movendus
   In tenues plantas facili diffunditur haustu.
   Vive bidentis amans et culti villicus horti,
   Unde epulum possis centum dare Pythagoreis.
   Est aliquid, quocumque loco, quocumque recessu,
   Unius sese dominum fecisse lacertae.
   Plurimus hic aeger moritur vigilando ; sed illum
   Languorem peperit cibus imperfectus et haerens
   Ardenti stomacho ; nam quae meritoria somnum
   Admittunt? magnis opibus dormitur in urbe.
   Inde caput morbi ; redarum transitus arto
   Vicorum in flexu et, stantis convicia mandrae
   Eripient somnum Druso vitulisque marinis.

2. ' Nil ergo optabunt homines ?' Si consilium vis,
   Permittes ipsis expendere numinibus, quid
   Conveniat nobis rebusque sit utile nostris.
   Nam pro iucundis aptissima quaeque dabunt di.
   Carior est illis homo, quam sibi.   Nos animorum
   Impulsu et caeca magnaque cupidine ducti
   Coniugium petimus partumque uxoris ; at illis
   Notum, qui pueri qualisque futura sit uxor.
   Ut tamen et poscas aliquid voveasque sacellis,
   Exta et candiduli divina tomacula porci,
   Orandum est, ut sit mens sana in corpore sano.
   Fortem posce animum, mortis terrore carentem,
   Qui spatium vitae extremum inter munera ponat
   Naturae, qui ferre queat quoscumque labores,
   Nesciat irasci, cupiat nihil et potiores
   Herculis aerumnas credat saevosque labores
   Et Venere et cenis et pluma Sardanapali.

Additional for Honors.

Translate, with brief notes :—

1. Saevit et in lucem Stygiis emissa tenebris
   Pallida Tisiphone Morbos agit ante Metumque,
   Inque dies avidum surgens caput altius effert.
   Balatu pecorum et crebris mugitibus amnes
   Arentesque sonant ripae collesque supini.
   Iamque catervatim dat stragem atque aggerat ipsis
   In stabulis turpi dilapsa cadavera tabo,
   Donec humo tegere ac foveis abscondere discunt.
   Nam neque erat coriis usus, nec viscera quisquam
   Aut undis abolere potest aut vincere flamma.
   Ne tondere quidem morbo illuvieque peresa
   Vellera nec telas possunt attingere putres ;

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amination.

> Verum etiam invisos si quis tentarat amictus,
> Ardentes papulae atque immundum olentia sudor
> Membra sequebatur, nec longo deinde moranti
> Tempore contactos artus sacer ignis edebat.

2. Est etiam flos in pratis, cui nomen amello
> Fecere agricolae, facilis quaerentibus herba;
> Namque uno ingentem tollit de caespite silvam,
> Aureus ipse, sed in foliis, quae plurima circum
> Funduntur, violae sublucet purpura nigrae :
> [Saepe deum nexis ornatae torquibus arae ;]
> Asper in ore sapor ; tonsis in vallibus illum
> Pastores et curva legunt prope flumina Mellae ;
> Huius odorato radices incoque Baccho,
> Pabulaque in foribus plenis appone canistris.

3. Translate and explain :

    (*a.*) Et temptat sese, atque irasci in cornua discit,
>   Arboris obnixus trunco.

    (*b.*) Aut in iugis qua nulla priorum
>   Castaliam molli devertitur orbita clivo.

    (*c.*) Et linguis micat ore trisulcis.

    (*d.*) Lanea dum nivea circumdatur infula vitta.

    (*e.*)   Aut ubi concava pulu
>   Saxa sonant vociaque offensa resultat imago.

    (*f.*) Aut Lugdunensem rhetor dicturus ad aram.

    (*g.*) Cascus adulator diruaque a ponte satelles.

    (*h.*) Spondet enim Tyrio stilataria purpura cultu.

    (*i.*) Quis dabit historico, quantum daret acta legenti ?

4. (1) Give a brief sketch of the origin and history of the Lucilian Satire.

    (2) (*a*) Determine, from internal evidence, the date of the Georgics.

    (*b*) Mention, with the occasion of each, the chief digressions in the third and fourth books of the Georgics.

Translate into Latin prose :

    Roman literature has often been compared to its disadvantage with Greek, that we feel tempted rather to undertake its defence than to swell the chorus of unfavourable criticism. It is true the lot of the Greeks, in what concerns science and art, has been more favourable than that of the Romans, in all things else so much their superiors. While the former, in their Homer, present themselves at once in almost absolute perfection, we see the latter laboriously striving upward, and releasing themselves by slow degrees from the fetters in which their language holds them bound. While these discover and perfect one form of literature after another in prose and verse, these develop but a single one, and that of so very poetic stamp, namely, satire. While the one reckon their literature by centuries, that of the others enjoys but a short and passing bloom. Lastly, while the Greeks enter upon their career from native impulse, and right and left open up to themselves new paths, the Romans follow them step by step almost with awe, and deliberately set themselves to imitate those models of perfect beauty. Who remembers not Horace's precept : 'If you would attain excellence, ponder by night and day the models of Greece' ?

THIRD YEAR STUDENTS.

Translate, with brief notes :—

1. Neque ego nunc consilium reprehendo tuum, quod cum tribus, quibus erat hic maxime notus, non collideris : sed a te doceo consilium non servatum senatus. Etenim quis te tum audiret illorum aut quid diceret? Sequestremur Plancium? respuerent aures, nemo agnosceret, repudiarent. An gratiosam? illi libenter audirent, nos non timide consitererunt. Noli enim putare, Laterensis, legibus istis, quas senatus de ambitu sanciri voluerit, id esse actum, ut suffragatio, ut observaretur, ut gratia tolleretur. Semper fuerunt viri boni, qui apud tribules suos gratiosi esse vellent. Neque vero tam durus in plebem noster ordo fuit, ut eam coli nostra modica liberalitas noluerit : neque hoc liberis nostris interdicendum est, ne observent tribules suos, ne diligant, ne coniicere necessariis suis suam tribum possint, ne par ab iis munus in sua petitione respondeat. Haec enim plena sunt officii, plena observantiae, plena etiam antiquitatis. Isto in genere et fuimus ipsi, cum ambitionis nostrae tempora postulabant, et clarissimos viros esse vidimus, et hodie esse volumus quam plurimos gratiosos. Decuratio tribulium, descriptio populi, suffragia largitione devincta severitatem amantissimi bonorum omnium me ad dolorem excitarunt. Haec doce, haec profer, huc incumbe, Laterensis, decuriasse Plancium, conscripsisse, sequestrem fuisse, pronuntiasse, divisisse : tum mirabor te iis animis, quas tibi ipse ius dabas, nobiscum agere. Tribulibus enim iudiciis non modo severitatem illorum, si ista vera sunt, sed ne vultus quidem ferre possemus.

2. Proprium id Tiberio fuit scelera nuper reperta priscis verbis obtegere. igitur multa adseveratione, quasi aut legibus cum Silio agerentur aut Varro consul aut illud res publica esset, coguntur patres, silente Tiberio, qui perinde ac nequiret coepturet, non occultante omnia iis praemerener. conscientia belli Sacrovir diu dissimulatus, victoria per avaritiam foedari et uxor Sosia arguebantur. nec dubie repetundarum criminibus haerebant : sed cuncta quaestione maiestatis exercita, et Silius imminentem damnationem voluntario fine praevenit. Saevitum tamen in bona, non ut stipendiariis pecuniae redderentur, quorum nemo repetebat ; sed liberalitas Augusti avulsa, computatis singillatim quae fisco petebantur. ea prima Tiberio erga pecuniam alienam diligentia fuit. Sosia in exilium pellitur Asinii Galli sententia, qui partem bonorum publicandam, pars ut liberis relinqueretur, censuerat. contra M. Lepidus quartam accusatoribus secundum necessitudinem legis, cetera liberis concessit. hunc ego Lepidum temporibus illis gravem et sapientem virum fuisse comperior : tam plerique a saevis adulationibus aliorum in melius flexit. neque tamen temperamenti egebat, cum aequabili auctoritate et gratia apud Tiberium viguerit. unde dubitare cogor, fato et sorte nascendi, ut ceteris, ita principum inclinatio in hos, offensio in illos, an sit aliquid in nostris consiliis, liceatque inter abruptam contumaciam et deforme obsequium pergere iter ambitione ac periculis vacuum.

3. Translate and explain :—

(a.) Nihil est iam quod populo supplicetur, nihil quod diribitio, nihil quod renuntiatio suffragiorum expectetur.

(b.) Non enim tribum Terentinam, sed dignitatem, sed oculorum conjectum praebuerunt.

(c.) Atqui haec sunt, judices, solida et expressa signa probitatis, non fucata forensi specie, sed domesticis inusta notis veritatis.

(d.) Et erat isdem regionibus Curtius Lupus praetor, cui provincia *Appendix.* *No. 8.* vetere ex more calles evenerat.

(e.) Nam ut quis destrictior accusator, velut sacrosanctus erat. *General* *Class Ex-*

(f.) Nam primo duodecim tabulis sanctum, ne quis unciario foenore *amination.* amplius exerceret, cum antea ex libidine locupletium agitaretur, dein rogatione tribunicia ad senuncias redactum, postremo vetita versura.

(g.) Quo [senatus consulto] per dissensionem facto.

4. Explain, and comment on the Latinity of, the following expressions :—

(a.) Ut in reliquos Sejani liberos adverteretur.

(b.) Campaniam praelegebat.

(c.) Arguitur plerasque.

(d.) Neque frustra praestantissimus sapientiae firmare solitus est.

(e.) Apud Capreas individui.

(f.) Qualem diem Tiberius induisset, pari habitu.

1. Translate, and write brief notes on any peculiarities which you observe in the words or syntax :—

St. Stasime, fac te propere celerem, recipe te ad dominum domum,
Ne subito metus exorietur scapulis stultitia tua,
Adde gradum, adpropera : iam dudum factus est quom abisti domo,
Cave sis tibi ne bubuli in te cottabi crebri erquent,
Si aberis ab eri quaestione : ne destiteris currere.
Ecce hominem te, Stasime, nihili : satin in thermipolio
Condalium es oblitus, postquam thermopotasti gutturem ?
Recipe te et recurre petere te recenti. Сн. Huic, quisquis est,
Gurguliest exercitor, is hunc hominem cursuram docet.
St. Quid, homo nihili, non pudet te ? tribusne te poteriis
Memoriae esse oblitum ? an nero, quia tu cum frugi hominibus
Ibi bibisti, qui ab alieno fidei suae oblitus sient,
Inter eosne homines cumulasti te redpisci postulas ?
Chiruchus fuit, Cerconicus, Crimnus, Criocalabus, Collabus,
Collicrepidae, cruricrepidae, ferritasi, mastigiae :
Quorum unus surrupuerit currenti cursori solum.
Сн. Ita ut sit amet, graphicum furem. St. Quid ego quod periit
petam ?
Nisi etiam laborem ad damnum adponam epithecam insuper.
Quin tu quod periit perisse ducis ? cape usrsoriam :
Recipe te ad erum. Сн. Non fugiticost hic homo : conmeninit domi.
St. Vtinam veteres ueterum mores, ueteres parsimonias
Potius in maiore honore hic essent quam mores mali.

2. Translate and explain :—

(a.) Faxo hau tantillum dederis verborum mihi.

(b.) Urbani adsidui cives, quos scurras vocant.

(c.) Amor procul abhibendus atque asptandus.

(d.) Cum vostris nostra non est aequa factio

(e.) Fulmentas jubeam suppingi soccis ? non sisti potest.

3. (*a.*) Explain and derive: vocivus, immoenia, promus, hostis, restinguo, tarpessita, cistellatrix, holitor, dierecte, drachuma, antidit, congliseo, cassis, acutum. (*b.*) Explain the forms: posiveris, faxis, sis, hercle *qui*, sampse.

4. Translate:

Hoc etiam faciunt ubi discubuere tenentque
pocula saepe homines et inumbrant ora coronis,
ex animo ut dicant ' brevis hic est fructus bonullis ;
iam fuerit, neque post umquam revocare licebit.'
tamquam in morte mali cum primis hoc sit eorum,
quod sitis exurat miseros atque arida torres,
aut aliae cuius desiderium insideat rei.
nec sibi enim quisquam tum se vitamque requirit,
cum pariter mens et corpus sopita quiescunt ;
nam licet aeternum per nos sic esse per aevom,
nec desiderium nostri nos adficit illum.
et tamen handquaquam nostros tunc illa per artus
longe ab sensiferis primordia motibus errant,
cum correptus homo ex somno se colligit ipse.
multo igitur mortem minus ad nos esse putandumst,
si minus esse potest quam quod nil esse videmus :
maior enim turbae dissicens materiai
consequitur leto, nec quisquam expergitus exstat,
frigida quem semel est vitai pausa secuta.

5. Translate and write brief notes on the following passages :

(*a.*) Jure, ut opinor, agat, jure increpet incilletque.

(*b.*) Nil tamen ad nos qui comptu conjugioque
Corporis atque animae consistimus uniter apti.

(*c.*)   Neque enim poterant suptiliter esse
Conexae neque consensus contagia fient.

(*d.*)   ut hoc promittere possis
Quantula prima queant nobis injecta ciere
Corpora sensifera motus in corpore, tanta
Intervalla tenere exordia prima animai.

6. Cite imitations of the following expressions from succeeding poets:

(*a.*) Nec minus ante haec quam tu' cecidere cadentique.

(*b.*)   Et semper victus tristisque recedit.

(*c.*) Omnia si pergas vivendo vincere saecla.

(*d.*) Cur non ut plenus vitae conviva recedis.

(*e.*) Hoc se quisque modo fugit (at quem scilicet, ut fit, Effugere haut potis est, ingratis haeret).

Translate into Latin prose :—

On the case of Ælius Saturninus, who was flung from the Tarpeian rock for a libel on the emperor, an historian remarks that this was only one of many instances of the infliction of death for reflections on the life and habits of Tiberius ; upon which he adds, that the Romans marvelled at the impolitic jealousy which thus exposed to public processes details which, whether true or false, acquired only from these processes their general notoriety and acceptance. People, he says, imagined Tiberius

must be mad to insist, often against the explicit denial of the accused, that crimes and vices had been imputed to him, which a man of sense would willingly have left unnoticed. But for the wisdom and policy of his general administration, which was still patent to the world, this hypothesis of insanity would have received general assent : as it was, his conduct in this respect could only be viewed as a strange example of human inconsistency. The particulars, however, of these charges, thus scrupulously and minutely detailed in the language of legal procedure, were preserved in the public records, which thus became an official repository for every calumny against the emperor which floated on the impure surface of common conversation. We cannot but suspect that this was the storehouse to which Tacitus and Suetonius, or the obscurer writers from whom they drew, resorted for the reputed details of a prince's habits, whom it was the pleasure and interest of many parties to blacken to the utmost.

Appendix. No. 2.

General Examination.

Class Examination.

MODERN LANGUAGES.—*Examiner*, Professor Meissner.

FIRST YEAR STUDENTS.

FRENCH.

Translate into French :—

I.—1. In what direction were you going, when this accident happened ? I was going towards the town. 2. Have you passed the iron bridge ? No, I went over the wooden bridge. 3. Do you think that she will write to her father, after having written to yours ? No, I believe that she will write to her son. 4. Which is the highest of European mountains ? I think it is the Mont Blanc. 5. What makes you laugh ? The story which I have just read. 6. Had you a water-proof coat during the storm ? No, but I had an umbrella.

II.—1. The poorest men are often the most generous. 2. My sisters were greatly astonished. 3. Let us go by the shortest route. 4. I have not been able to succeed. 5. We knew nothing of what was going on. 6. I see him coming. 7. He is never satisfied with me. 8. I think this marriage will not take place. 9. People do not always say what they think. 10. Request them to come in. 11. The Russians destroyed their own capital, and reduced their own palaces and stores to ashes. 12. He does not know what he wants.

III.—1. He is travelling in France. 2. He lives at Lyons, in the south of France. 3. It is a long time that you have not honoured me with a visit. 4. The Romans used to burn their dead. 5. When he comes, tell him that. 6. They may say what they like. 7. I approve of your going. 8. He is twelve years old. 9. This mountain is ten thousand five hundred feet high. 10. Show it me, or do not show it me ; just as you like. 11. Whatever efforts he may make, he will not succeed. 12. However powerful they may be, we do not fear them.

IV.—Some of Goldsmith's friends and admirers honoured him with a cenotaph in Westminster Abbey. Nollekens was the sculptor, and Johnson wrote the inscription. It was to be lamented that Johnson did not leave to posterity a more durable and a more valuable memorial of his friend. A life of Goldsmith would have been an inestimable addition to the Lives of the Poets. No man appreciated Goldsmith's

writings more justly than Johnson : no man was more acquainted with Goldsmith's character and habits ; and no man was more competent to delineate, with truth and spirit, the peculiarities of a mind in which great powers were found in company with great weaknesses.—MACAULAY.

FOR PASS-MEN ONLY.

Translate into English :—

Charles s'avança la long de la salle des banquets entre deux haies de troupes. Une foule d'hommes et de femmes s'y étoient précipités au péril de leur vie, immobiles, et priant pour le roi, à mesure qu'il passait ; les soldats, silencieux eux-mêmes, ne les rudoyaient point. A l'extrémité de la salle, une ouverture, pratiquée la veille dans le mur, conduisait du plain-piad à l'échafaud tendu de noir ; deux hommes, debout auprès de la hache, étaient tous deux en habits de matelots et masqué.

Le roi arriva, la tête haute, promenant de tous côtés ses regards, et cherchant le peuple pour lui parler : mais les troupes couvraient seules la place ; nul ne pouvait approcher. Il se tourna vers Juxon et Tomlinson. " Je ne puis guère être entendu que de vous," leur dit-il, " ce sera donc à vous que j'adresserai quelques paroles ;" et il leur adressa en effet un petit discours qu'il avait préparé, grave et calme jusqu'à la froideur, uniquement appliqué qu'il avait eu raison ; que le mépris des droits du souverain était la vraie cause des malheurs du peuple ; que le peuple ne devait avoir aucune part dans le gouvernement ; qu'à cette seule condition le royaume retrouverait la paix et ses libertés.

Pendant qu'il parlait, quelqu'un toucha à la hache, il se retourna précipitamment disant : " Ne gâtez pas la hache, elle me ferait plus de mal ;" et, son discours terminé, quelqu'un s'en approchant encore : " Prenez garde à la hache ! prenez garde à la hache !" répéta-t-il d'un ton d'effroi.—GUIZOT.

GERMAN.

Translate into German :—

We should have called upon you, if we had had time. My father wishes us to learn German. The merchant would not have failed, if he had been more cautious. We shall remove to Germany. I have cut my finger. A lady alighted from the carriage. Would you accompany me, if I went ? We were obliged to wait. The children are to go to school. I have been willing, but I have not been permitted. I have let the lad fly. The enemy has been put to flight. The purse has been found by a schoolboy. He is acquainted with everybody. The planets receive their light from the sun. Xerxes, King of Persia, was the son and successor of Darius Hystaspis. A faithful friend is a great treasure. The gentlemen went into an adjoining room. The hotter the days, the more pleasant the nights. I shall vote for it. Do you insist upon it ? Even my best friends have forsaken me. We met each other every day. I cannot write with such a pen. What are you laughing at ? The train leaves at half-past six. He is gone into the garden. The branches of the trees grow over the garden-wall. He looks as if he had no good conscience. Wait till I have finished my work. It struck seven when we arrived at the station. Prosperity gains friends, and adversity tries them.

Translate into English :—

Ganz unmittelbar war die Rückwirkung dieses Ereignisses auf den europäischen Osten. Rücksten der Krieg in Italien zur Reise gekommen, entschlop sich Kaiser Leopold, die seinem Begabung des Prinzen Eugen zur Beendigung des langwierigen türkischen-ungarischen Kampfes zu verwerthen, und so fah sich zum ersten Male Eugen in voller Selbst-ständigkeit, weder durch habernde Bundesgenossen noch durch unsähige Vorgesetzte gehemmt, einer großen Aufgabe gegenüber. Allerdings, es fand ihre Anlaß genug, seine Kräfte zu erweisen. Wie hatten sich seit der siegreichen Wiedernahme Belgrads die Dinge in Ungarn gestaltet! Dahatte die Romäisme Wesen, die Waffen Rom redete, hatten die kaiserliche Perlust auf Verlust erlitten. Sie waren aus Siebien verdrängt Belgrad von den Türken wieder genommen, das Banat von Temeswar vollständig, Croatien und Slavonien zur Hälfte in den Hand des Feindes.—STEBL.

SECOND YEAR STUDENTS.

FRENCH.

Translate into French :—

I.—From what you say I see that this affair is more important than I thought. Show me the way to Cambridge. What I most complain of is your dissimulation. Do not always say what you think, but always think what you say. Shakespeare was born at Stratford, a little town in England. What has become of the newspapers which I have lent to you? It were to be wished that all men followed such an example. He must have taken a great deal of pains. Rome being then a town without commerce, pillage was the only means that the Romans had to enrich themselves.—EUGENE.

II.—Two officers had taken up their quarters in one of the buildings of the Kremlin. From there they could at a glance look over the whole north and west-end of the town. About midnight an extraordinary brightness awakened them. They look out and see flames filling the palaces, the noble and elegant architecture of which they at first illuminate and then cause to crumble. They observed that a north wind chased these flames directly on the Kremlin. They were alarmed for this spot, in the precincts of which reposed the picked corps of the army and its commander. They feared also for all the adjoining houses, in which our soldiers and horses were buried in deep sleep. Sparks were already flying as far as the roof of the Kremlin, when the wind changed from the north to the west, and carried them in another direction. Then, reassured respecting this own army-corps, one of these officers went to sleep again, exclaiming :—" That is other people's business and concerns us no longer."—SEGUR.

III.—As a foreigner is very apt to conceive an idea of the ignorance or politeness of a nation from the turn of their public monuments and inscriptions, which should be submitted to the perusal of men of learning and of genius, before they are put in execution. The Dutch, whom we are apt to despise for want of genius, show an infinitely greater taste of antiquity and politeness in their buildings and works of this nature, than what we meet with in those of our own country.—We all of us complain of the shortness of time, saith Seneca, and yet have much more than we know what to do with. We are always complaining our days are few, and acting as though there would be no end of them. How can it enter into the thoughts of man, that the soul, which is

capable of such immense perfections, and of receiving new improvements to all eternity, shall fall away into nothing almost as soon as it is created? A brute arrives at a point of perfection that he can never pass; in a few years he has all the endowments he is capable of; and were he to live ten thousand more, would be the same thing he is at present.—ADDISON.

IV.—The East-India Company was then purely a trading-corporation. Its territory consisted of a few square miles, for which rent was paid to the native governments. Its troops were scarcely numerous enough to man the batteries of three or four ill-constructed forts, which had been erected for the protection of the warehouses. The natives, who composed a considerable part of these little garrisons, had not yet been trained in the discipline of Europe, and were armed, some with swords and shields, some with bows and arrows. The business of the servant of the Company was not, as now, to conduct the judicial, financial, and diplomatic business of a great country, but to take stock, to ship cargoes, and above all to keep an eye on private traders who dared to infringe the monopoly.—MACAULAY.

V.—1. How does Littré account for the initial *h* in *huile*, *haut*, &c.?
   2. State the law according to which *a* is diphthongated in *aimer* and *romain*.
   3. In what positions does *c* change into *ch*?

Translate into German:

Every citizen, whoever he may be, must obey the laws. Though a man possessed all earthly goods, wealth alone could not make him happy. Charles the Fifth would not leave his house so unfortunate, had he been as prudent as he was valiant. For the sake of his friend he would have risked everything. He is too conscious of his own strength to evade difficulties. We shall ascend the mountain before the sun rises. He insists upon your obeying his orders. We rely upon your making the necessary arrangements. I do not remember ever to have heard of it. Some waggons conveying provisions have unfortunately fallen into the hands of the enemy. This hour he and his children's children will remember. A truly noble-minded man does not boast of his good actions. I have become tired with running. He becomes stupid with sleeping. Which of my friends will in the hour of need stand by my side? Doctor N. has been appointed physician in ordinary to the Queen. The errors which require to be corrected are marked with red ink. This is a circumstance which deserves to be noticed. What was I to do in such a perplexity? He is said to have emigrated to America. A chapel stands at the place where Cicero pretends to have found the tomb of Archimedes.

Translate into English:—

Seit die Mönche von der stillen Klosterpforte an den festen, ungestörten Landmann durch Unterricht und Beispiel belehrten, wie er durch Beobachtung und Nachdenken sich Loos verbessern, triebischer Gärten ergießen kann, seit die großen Städte in Gewerbfleiß weitesehen, waren viele tausend geübter und kleiner Erstaunungen und Entdeckungen durch diese nun mit seiner Räumen Verbinderungen in den menschlichen Bestellnisse bekessischnihn. Absichtliche Ausschaltungen in der seben der Kräfte brachen die Erstaunungen der Kompuster, des Schieszpulvers und der Buchzückerlausst hervor.

Daß eine Art Eisenstein, der Magneteisenstein, reines Eisen anzieht und festhält, kannte man schon früh; weniger beachtete man, daß eine feine Nabelnand dieses Magnetsteine mit der einen Spitze stets nach Norden zeigt, wenn man sie vorgeschist frei auf hängt, oder auf einen Stift legt. Schon im 13. Jahrhundert wurde diese Beobachtung gemacht. Magnetische Länge Nadel über eine zart geschmälzten Eisen, die man mit Magnet befreit, in ein Käschen und hatte ein bequemen Mittel, um sich überall zurecht zu finden; denn weiß man erst eine Himmelsgegend, so kennt man auch die anderen dieses Geräth, der Kompaß, hat namentlich die Schifffahrt gänzlich umgewandelt. Nicht mehr an dem gefährlichen Küsten steuert man hin, sondern fährt getrost quer über die größten Meere; nicht mehr nach den Sternen blickt der Steuermann, die ihn bei bewölkten Himmel verlassen, sondern auf die zitternde Magnetnadel heftet er sein Auge, und sie täuscht nie.—Kellner.

THIRD YEAR STUDENTS.

FRENCH.

Translate into French:

I.—Without laying aside that dauntless valour which had been the terror of every land from the Elbe to the Pyrenees, the Normans rapidly acquired all, and more than all the knowledge and refinement which they found in the country in which they had settled. Once spared neither age nor sex; he slaughtered men in battle, in flight and after submission; he plundered them, he sold them for slaves; he burnt their houses, he wasted their fields; he left them to perish in the winter, houseless and without food. No man, of his own, or of any other time better understood how to avail himself of the frailties of others, and when to avoid giving any advantage by the untimely indulgence of his own.

II.—There is nothing which so generally strikes the imagination and engages the affections of mankind, as the right of property; or that sole and despotic dominion which one man claims and exercises over the external things of the world, in a total exclusion of the right of any other individual in the universe. And yet there are very few that will give themselves the trouble to consider the original and foundation of this right. Pleased as we are with the possession, we seem afraid to look back to the means by which it was acquired, as if fearful of some defect in our title.—BLACKSTONE.

III.—1. Name the authors of the following plays, and state what classical plays they have partly been taken from:—Les Plaideurs, Phèdre, L'Avare.

2. What is meant by *marivaudage?* Show that this word is improperly formed, and explain how the error originated.

3. What were the several causes, which gave to dramatic poetry the most prominent position in French literature during the 17th century?

4. Give a brief account of French literature under the first Empire.

5. Characterize briefly Augustin Thierry, Guizot, Thiers, Mignet.

MATHEMATICS.—*Examiner*, Professor Parser.

FIRST YEAR STUDENTS.

ALGEBRA, &c.

1. Divide $2x^5 - 2x^4 + 3x^2 + 1$ by $2x^3 + x + 1$; and multiply $x^{\frac{2}{3}} - y^{\frac{3}{4}}$ by $x^{\frac{2}{3}} + x^{\frac{1}{3}} y^{\frac{1}{2}} + y^{\frac{3}{4}}$.

2. Solve the equations:—

1° $\dfrac{1}{x+1} - \dfrac{x}{x+2} = \dfrac{1}{6}$.

2° $\sqrt{x+3} - \sqrt{x-2} = 1$.

3. Given $x + y = 5$ $x^2 + y^2 = 35$; find x and y.

4. Find the number of combinations of n things taken r at a time.

Apply this to prove the binomial expansion for positive integral exponents.

Find the co-efficient of x^2 in $(3 - x)^7$.

5. Find the square root of $7 + 4\sqrt{3}$.

6. The three sides of a right-angled triangle are in continued proportion and the hypotenuse is given ($=c$); calculate the other sides.

7. Of two given chess players the better wins on the average seven games to the other's five. In a match of twelve games four games have been played and one of these players, which it is not being known, has already won all these; find the probability that this player will win the match. No drawn game is to count as one of the twelve.

8. Find a numerical expression for the present value of an annuity for thirty years in which each payment is to bear to the preceding payment the ratio of 21 : 20. Interest being calculated at 4 per cent. and the first payment being £100.

9. Investigate the series for the expansion of e^x.

Sum the series, $1 + \dfrac{2^3}{1 \cdot 3} + \dfrac{3^3}{1 \cdot 2 \cdot 3} + \dfrac{4^3}{1 \cdot 2 \cdot 3 \cdot 4} + \&\text{c}.$

10. Assuming the series for $\log(1 + x)$, investigate the limit of $\left(1 + \dfrac{x}{n}\right)^n$ as n increases.

11. Eliminate θ from the equations,

$$\cos(\theta - a) = a \qquad \cos(\theta - \beta) = b.$$

12. Find the result of eliminating a between two cubics.

CONIC SECTIONS.

1. A line parallel to the axis of a parabola bisects all chords parallel to the tangent at the extremity of the line.

2. The tangent in a central conic makes equal angles with the focal radii.

3. The parameter of any section of a cone varies as the distance of the section from the vertex.

4. If a line parallel to the minor axis of an hyperbola meet the curve in Q and the asymptotes in T, T', the rectangle, QT. QT'=const.

5. Given four lines a, b, c, d, such that a conic can be described touching a, b and having c, d as asymptotes, then another conic can be described touching c, d and having a, b as asymptotes.

GEOMETRY, &c.

1. If a tangent be drawn to a circle, and through the point of contact a chord be drawn cutting the circle, the angles which the chord makes with the tangent are equal to the angles in the alternate segments.

2. Inscribe a circle in a given triangle.

3. The sides of a triangle are 5, 6, 7. Calculate the segments in which the bisector of the greatest angle divides the opposite side ; also the segments in which the perpendicular let fall from this angle divides the same side.

4. What propositions enable you to solve the following problems :

1° to divide a line into three equal parts.

2° to divide a right angle into five equal parts.

5. Assuming formulæ for the sines and cosines of sums and differences, prove that

$$\sin A = 2 \sin \frac{A}{2} \cos \frac{A}{2}, \text{ and } \cos 3A = 4 \cos^3 A - 3 \cos A.$$

6. Given $\tan A = \frac{5}{12}$, find $\cos A$ and $\cos 2A$.

7. Prove the expression for the area of a triangle in terms of the sides.

8. Prove the expression for the cosine of the angle of a triangle in terms of the sides.

The sides of a triangle are respectively

$$\sqrt{6}, \sqrt{3} + 1 \text{ and } 2 ;$$

calculate the angles from the known expression for their cosines.

9. Prove De Moivre's theorem for all indices.

Write down in a trigonometrical form all the values of $(-1)^{\frac{1}{3}}$.

10. Prove the expansion of $\sin \theta$ in powers θ.

Assuming this expansion, calculate to seven decimal places $\dfrac{\sin \theta}{\theta}$ where θ is the circular measure of $1°$.

11. Show that the product

$$\left(1 - \frac{1}{2^2}\right) \quad \left(1 - \frac{1}{5^2}\right) \quad \left(1 - \frac{1}{5^2}\right), \&c.,$$

where 2, 3, 5, &c., are the successive prime numbers, approaches the limit $\dfrac{6}{\pi^2}$.

12. The sum of any two of the plane angles forming a solid angle is greater than the third.

13. Find the surface of a sphere intercepted between two parallel planes.

14. In a right-angled spherical triangle

$$\cos A = \cos a \sin B. \qquad \cos c = \cos a \cos b.$$

15. Prove that the area of a spherical triangle is proportional to the spherical excess.

16. Prove the expression for the volume of a parallelopiped in terms of the edges and their inclinations to each other.

17. Given in magnitude and position the vertical angle of a spherical triangle, and also the perimeter of the triangle ; find envelope of base.

18. If P, Q be two points inside a quadrantal triangle ABC, α_1, γ_1, α_2, β_1, γ_2 the arcs joining P and Q to vertices, ϕ the angle at which PQ produced intersects the side opposite C, show that

$$\cos\phi = \frac{\cos\alpha_1\cos\beta_2 - \cos\alpha_2\cos\beta_1}{\sin\theta}$$

where $\theta = P \cdot Q$.

19. If x, y be the lengths of the lines joining the middle points of opposite edges of a tetrahedron, ω the angle between these lines, and a, b those edges which are not met by either of these lines, prove that

$$\cos\omega = \frac{a^2 - b^2}{4xy}$$

SECOND YEAR STUDENTS.

CO-ORDINATE GEOMETRY.

1. The equation of a line is $2x + 3y = 6$; find
1° the equation of the perpendicular let fall on this line from the origin;
2° the length of this perpendicular;
3° the equation of the circle passing through the origin and the points when the line meets the axes.

2. Examine the position of the centre and the radius of the circle
$$4(x^2 + y^2) - 12x + 20y + 9 = 0.$$
Prove that it touches the axis of x.
Find the pole of the axis of y with respect to the circle.

3. Investigate by co-ordinate geometry
1° the locus of a point such that the sum of its distances from two given points be given.
2° the locus of a point such that the ratio of these distances be given.

4. Find the polar equation of an ellipse referred to the focus as pole.

5. Find the perpendicular let fall from the centre upon the tangent to an ellipse in terms of the angle it makes with the axis.
Find at what point of an ellipse the area of the triangle made by this perpendicular, the tangent and the radius vector, is greatest.

6. Find the position of the axes of the conic $Ax^2 + 2Hxy + By^2 = C$ and the equation of the conic when referred to them.

7. Investigate the equation of the hyperbola referred to its asymptotes. Using this equation establish some of the elementary properties which involve the asymptotes.

8. Find the condition that two conics represented by the general equation should be, (1) similar, (2) similar and similarly placed.

9. Find the locus and pole of a given line with respect to a system of confocal conics.
Show that the centre of curvature of an ellipse at any point P is the pole of the tangent at P, with respect to the confocal hyperbola passing through P.

10. Given the two conics
$$\frac{x^2}{\alpha^2} + \frac{y^2}{\beta^2} = 1, \quad \frac{x^2}{A^2} + \frac{y^2}{B^2} = 1,$$

Show that the envelope of the perpendicular let fall from any point on the second on its polar with respect to the first, is given by the equation

$$\frac{a^{\frac{4}{3}}x^{\frac{2}{3}}}{A^{\frac{2}{3}}} + \frac{b^{\frac{4}{3}}y^{\frac{2}{3}}}{B^{\frac{2}{3}}} = (a^2 - b^2)^{\frac{2}{3}}.$$

11. Find the equation of the conic circumscribing the triangle of reference, and having its centre at the centre of gravity of the triangle.

12. Investigate the general form of the equation of a circle in trilinear co-ordinates.

SECOND YEAR STUDENTS.

DIFFERENTIAL AND INTEGRAL CALCULUS.

1. Investigate from first principles the differential co-efficients of $\tan x$, $\dfrac{1}{x^2}$ and $\sqrt{-x}$.

2. Differentiate

$$\frac{x}{(a+bx^2)^{\frac{1}{3}}}, \quad \tan^{-1}\sqrt{1+2x}, \text{ or } \frac{1}{x}.$$

3. Find the equation of the normal to the curve $y^3 = ax^2$ at the point $x = a$ $y = a$.

4. Prove by the differential calculus that $\dfrac{\sin x}{x}$ constantly decreases as x passes from 0 to $\dfrac{\pi}{2}$.

5. Required

$$\int \frac{dx}{x+3} \qquad \int \sin(mx+a)\,dx \qquad \int \frac{x\,dx}{\sqrt{1-x^2}}$$

6. Required

$$\int \sin^{-1}x\,dx \qquad \int x(1+x)^{\frac{1}{2}}\,dx.$$

7. Apply the Integral Calculus to find
   1° The area of the parabola.
   2° The volume cut off from a sphere by any plane.
   3° The superficial area of a circular ring.

8. Change the variables from x and y to u and v in the equation

$$\frac{d^2z}{dx^2} = \frac{d^2z}{dy^2}$$

where $x = u + v$ $y = u - v$.

9. Explain how to find the envelope of a curve whose equation contains one arbitrary parameter.

   Ex. the envelope of the parabola.

   Prove that $\phi(x, y, a) = 0$ represent a variable curve, the points determined by the equations

$$\phi = 0 \quad \frac{d\phi}{da} = 0 \quad \frac{d^2\phi}{da^2} = 0$$

are points where the variable curve osculates the envelope.

10. Required

$$\int \frac{x^3 dx}{1+x+x^3+x^3} \qquad \int \frac{dx}{x^2 \sqrt{x^3-1}}.$$

11. Prove the expression for the radius of curvature

$$R = \frac{v \, dv}{dp}.$$

Investigate the corresponding expression for the radius of the small circle osculating a curve on the sphere.

12. Find the equation of the following curves in r and p co-ordinates.

1° The equilateral hyperbola.
2° The lemniscate.

Examine their radii of curvature.

13. Given the curve $y = cx^2 - x^4 - &c$.

Prove that the curve locus of the middle points of chords parallel to the axis of x cuts the given curve at the angle

$$\tan^{-1}\left(\frac{2b^3}{c}\right).$$

14. Reduce to its factors, the determinant

$$\begin{vmatrix} 1 & 1 & 1 & 1 \\ a & \beta & \gamma & \delta \\ a^2 & \beta^2 & \gamma^2 & \delta^2 \\ a^4 & \beta^4 & \gamma^4 & \delta^4 \end{vmatrix}.$$

15. Explain Simpson's method of solving a biquadratic and express its roots in terms of those of the reducing cubic.

NATURAL PHILOSOPHY.—*Examiner*, Professor EVERETT.

SECOND YEAR ARTS, FIRST YEAR ENGINEERING, AND MEDICAL STUDENTS.

EXPERIMENTAL PHYSICS.

[No credit will be given for numerical answers unaccompanied by work. The left hand pages are for rough work. The books are not, under any circumstances, to be mutilated.]

1. Define the following, and investigate their dimensions in terms of mass, length, and time.—

(1.) The unit of force.
(2.) The unit of energy.
(3.) The electrostatic unit of quantity.
(4.) The electrostatic unit of potential.

2. Under what circumstances are induced currents called into existence? State their quantitative laws.

3. How is Helmholtz' siren used for illustrating the production of beats? How do you explain the beats which are heard when a note and its fifth are slightly out of tune?

4. How can the velocity of sound in a rod be computed from observations on the longitudinal vibrations of a rod?

5. Explain fully the meaning of the statement that between any four colours one colour-equation subsists. What must be the relative

sitnation of three colours in the colour-cone, that they may be capable of yielding white or gray by their combination?

8. How is the magnifying power of a telescope defined? Given the effective aperture, the diameter of the "bright spot" and the diameter of the pupil of the observer's eye, how can the magnifying power be computed, and the loss of brightness as compared with direct vision (neglecting the loss due to reflection and imperfect transmission)?

A siren has 15 holes, and is observed to make 516 revolutions in half a minute, when in approximate unison with a certain pipe. If the siren is constantly sharper than the pipe, and the total number of beats is 104, what is the pitch of the pipe?

9. Prove the law of tangents for the tangent galvanometer.

10. Indicate the positions of the nodes and antinodes for the first three tones of a stopped organ pipe.

10. Compare the joint resistance of two wires when arranged in line, with their joint resistance when arranged in parallel circuits.

11. Prove that the coefficient of cubical expansion is three times the coefficient of linear expansion, when the latter is the same in all directions.

12. Describe the arrangement of the needles in the astatic galvanometer; and point out the consequences of this arrangement both as respects the action of the earth and the action of the current.

13. Draw a rough sketch of the lines of force round a bar magnet; and give an accurate definition of a line of magnetic force.

14. If the latent heat of steam at $100°$ is $536°$, how much steam at $100°$ must be condensed in 10 pounds of water at $0°$, to raise the temperature of the water to $55°$?

15. What is the method of observation usually employed for determining the moisture of the air? What is the direct method of observing the dew point?

16. Describe the appearance presented when a block of iceland spar is laid over a dot on a sheet of paper. What modification is introduced by holding a tourmaline plate in front of the eye?

17. Describe Oersted's apparatus for compressing liquids. What appearance would be presented if the compressibility of the liquid was the same as that of the envelope?

18. Describe the essential parts of an electrical condenser. How is it that a Leyden jar cannot be charged if the outer coating is insulated?

19. Mercury is sucked up a pipette to a height of 10 inches above the level of the mercury in the reservoir. What is the pressure of the air in the upper part of the pipette?

MATHEMATICAL PHYSICS.

[No credit will be given for numerical answers unaccompanied by work. The left hand pages are for rough work. The books are not, under any circumstances, to be mutilated.]

1. Two strings, of lengths 5 and 6 centimetres, are tied at one end to a weight of one kilogramme, while their other ends are respectively attached to two nails, 6 centimetres apart in the same horizontal line. Find the tensions in the two strings.

2. Find the velocity and direction of projection of a stone which just clears a wall at a horizontal distance of 50 ft. and height of 30 ft. above the point of projection, and strikes an object at the same height as the point of projection, at a distance of 200 ft.

3. Find the relation between the distances of conjugate geometrical

foci from the centre of a lens which is a complete sphere. [The thickness
of the sphere cannot be neglected.]

4. Several particles are moving in the same straight line with different
velocities. Investigate a formula for the velocity of their centre of
gravity.

5. Define the unit of force with reference to the centimetre, gramme,
and second, and show that the work done by gravity upon a body which
falls through h centimetres is $\frac{1}{2} mv^2$, where v denotes the velocity acquired
in the fall.

6. A ball of iron, of sp. gr. 7.3, and a ball of lead of sp. gr. 11.4 equili-
brate each other when suspended under water, from the scale-pans of a
balance, the scale-pans themselves being above water. Compare the true
weights of the balls.

7. Find the focal length, in water, of an equi-convex lens of glass, of
radius of curvature r, the absolute indices of glass and water being—

$$\frac{3}{2} \text{ and } \frac{4}{3}$$

8. Find the pressure, at volume v and temperature 100° C., of a
quantity of dry air which, at volume V, and temperature 0°C., has a
pressure P.

9. A cubical vessel whose edge, measured internally, is 12 centimetres,
is just filled with mercury of sp. gr. 13.6. Find in grammes, the total
pressure on one side, and also the line of action of the resultant of this
pressure, atmospheric pressure being neglected.

10. Investigate the focal length of a compound lens, in terms of the
focal lengths of the lenses which compose it, their thicknesses being
neglected.

11. Investigate the position of the geometrical focus of rays sent into
air from a point under water, the surface of the water being plane.

12. A ray is incident at an angle of 45° upon a medium whose index
of refraction is 1.414. Find the angle of refraction.

13. A concave lens of focal length 10 inches, is placed at a distance of
10 inches from a small object on its axis. Will the image be real or
virtual, and what will be its position and magnitude?

14. Prove that the distances of conjugate foci from a spherical mirror
are, from the centre of curvature, are in direct proportion.

15. Prove the principle of movements for forces whose lines of action
meet in a point.

16. Prove that every body has a centre of gravity.

17. A stone is dropped, and, after a short interval another is dropped
after it. Show that the distance between them increases at a constant
rate.

18. Give accurate definitions of latitude and longitude, both terrestrial
and celestial ; and distinguish between a sidereal day, an apparent solar
day, and a mean solar day.

19. Indicate the computation for determining the specific gravity of a
liquid by means of Nicholson's hydrometer.

20. Find the mass of 113 cubic centimetres of a substance of sp. gr.
8.09 ; and find the volume of 738 grammes of a substance of sp. gr. 3.55.

21. Prove the parallelogram of forces, as regards direction, when one
of the two components is a multiple of the other.

22. The specific gravity of lead being 11.4, what will be the apparent
weight of 100 grammes of lead in alcohol of sp. gr. .85 ?

THIRD YEAR STUDENTS.

MATHEMATICAL PHYSICS.

Honor.

1. Show that a set of forces acting on a rigid body can always be reduced to a force and a couple in such a way that the axis of the couple shall coincide with the line of action of the force. What name is given to the line of action of the forces in this case?

2. If X, Y, Z, L, M, N, are the three component forces and three component couples to which a set of forces are reduced when referred to rectangular axes, find the component moments round the point x, y, z.

3. If a rigid body has component velocities of rotation p, q, r round a set of rectangular axes, and has also component velocities of translation u, v, w along these axes, find the component velocities of the point x, y, z.

4. Compound three equal velocities of rotation round three arbitrary parallel axes not in the same plane.

5. Find the centre of gravity of a frustum of a right circular cone in which the density of any right section is constant over the section and proportional to the nth power of the distance of the section from the vertex. Also find the attraction of the frustum upon a particle at the vertex.

6. Show that a uniform spherical shell exerts no attraction upon an internal particle.

7. Show that the attraction of an infinitely long uniform circular cylinder upon an external particle varies inversely as the distance from the axis; and examine whether the same law holds true for a particle in the substance of the cylinder.

8. State and prove Guldinus' theorem for the volume of a solid of revolution.

9. If a flexible string is in equilibrium under the action of a central repulsive force, show that its tension at any point varies as the perpendicular from the centre of force upon the tangent at this point.

10. Investigate the two directions of projection which, with the same initial velocity, give the same range upon an inclined plane through the point of projection.

11. Prove the two formulae for central forces,

$$P = \tfrac{1}{2}h^2 \frac{d}{dr}\left(\frac{1}{p^2}\right), \quad P = h^2 u^2\left(u + \frac{d^2u}{d\theta^2}\right).$$

What are the conventions here employed as regards the sign of P?

12. Prove the formula $v^2 = \tfrac{1}{2} P q$, where q is the chord of curvature through the centre of force.

13. Show, as a consequence of the undulatory theory, that the curvature of a ray in a continuously varying medium, is

$$\frac{d \log \mu}{d N}$$

$d N$ denoting a small distance measured in the osculating plane towards the centre of curvature.

14. When μ is a function of distance from a fixed plane, find the law of variation which makes all rays arcs of circles.

THIRD YEAR ENGINEERING STUDENTS.

NATURAL PHILOSOPHY APPLIED.

1. Investigate the angular velocity-ratio of two pieces working together in the same plane, on fixed centres, with sliding contact; and show that the velocity of sliding is equal to the sum or difference of the angular velocities multiplied by the distance of the point of contact from the intersection of the common normal with the line of centres.

2. Two wheels are to work together in the same plane with constant velocity-ratio. If the teeth of one of them are pins, investigate the form of the teeth of the other; first, when the pins are regarded as mathematical lines; secondly, when the diameter of the pins is taken into account.

3. A wheel of 20 teeth works with a wheel of 35 teeth; how many different teeth of the larger wheel will come into action with a given tooth of the smaller? What is a hunting cog, and what is its effect?

4. A frame of six pieces has the form of a regular tetrahedron, its base being horizontal. Find the thrust in each of the three pieces which meet at the top, when a weight is supported at the top.

5. Draw a "reciprocal diagram" for the pulls and thrusts in the pieces of a triangular frame, due to forces in equilibrium applied at the three corners. Why is it called a *reciprocal diagram?*

6. Show that the area swept out by a straight line in any small motion in plane, is equal to the product of the length of the line, the distance between the initial and final positions of the middle point, and the cosine of the angle which the line joining these positions makes with the moving line. In what instrument is this principle employed?

7. How do you define the composition of angular velocities of a rigid body? Show that two angular velocities round intersecting axes can be compounded by a law analogous to the parallelogram of forces.

8. Investigate the resultant of a force and a couple in the same plane.

9. Investigate the resultant of a velocity of translation, and a velocity of rotation round an axis perpendicular to the translation.

10. Find the ratio of the work done by steam working expansively, on the hypothesis of constant temperature, to the work done by the same quantity of steam working without expansion, the pressure at which the steam enters the cylinder being the same in both cases.

11. Find the pull in a tie-beam, due to a weight uniformly spread over an isosceles roof.

CHEMISTRY.—*Examiner, Dr. Andrews.*

1. What volume would 100 C.C. of air, measured at O.C. and under a pressure of 760 millimetres, occupy if it were heated to 2000°C, and the pressure reduced to 10 millimetres?

2. Calculate the weight of moisture in 1000 C.C. saturated air at 14°C, and under a pressure of 750 millimetres. [Tension of aqueous vapour at 14°C, 12 millimetres. Density of aqueous vapour (air=1) 0·623. Weight of 1000 C.C. atmospheric air at 0° and 760 millimetres 1·29 grammes.]

3. How would you determine experimentally the amount of the latent heat of water?

4. How many grammes of ice would 1000 grammes of mercury melt in cooling from 1000° C. to 0°? [Latent heat of water 79°. Specific heat of mercury 0·033 (water=1).]

5. How are rubidium and cæsium spectroscopically distinguished from potassium ? *Appendix, No. 3.*

6. Give an account of the spectrum of hydrogen gas. *General Class Examination.*

7. How is chlorine gas prepared and how does it act on the following bodies:—hydrogen, phosphorus, iron, zinc, arsenic ? State the formulas of the resulting compounds.

8. Describe the preparation of sulphuretted hydrogen gas, and state in symbols its reactions when it is passed into solutions of sulphate of copper and of the arsenious and arsenic acids.

9. What are the distinctive properties of the arseniuretted and antimoniuretted hydrogen gases ?

10. Give an account of the different methods of obtaining bodies in a crystalline state, and describe the fundamental forms of the 3rd system.

11. What are the usual relations between the vapour densities and atomic weights in the cases of the elementary and the compound bodies ? Mention any exceptions which have been observed.

12. What is the meaning of the term *dissociation* ? and give an example to illustrate your explanation.

13. Describe the ordinary method of preparing cast iron, and state its chemical composition.

14. What are the chief ores of copper, and how is the metal obtained from them ? Describe also the characteristic tests for copper.

15. Give the general formula of the series of alcohols to which common alcohol belongs, and show how they may be derived by substitution from methylic alcohol.

16. Describe the process of saponification, and explain the changes which take place in the process.

17. What are the relations which exist between the tartaric, malic, and succinic acids ? and state how they may be derived from one another.

18. Describe the chemical changes which occur in Daniell's and in Grove's batteries, and show how they produced constancy in their action.

19. Give an account of the process of electro-plating and explain the chemical changes.

20. Describe the induced currents of Faraday, and state how they have been applied to give electrical discharges of high tension.

CIVIL ENGINEERING.—*Examiner*, Professor FULLER.

FIRST YEAR STUDENTS.

GEOMETRICAL DRAWING.

1. When a straight line is perpendicular to a plane, its horizontal and vertical projections are perpendicular to the horizontal and vertical traces of the plane, respectively. Prove this.

2. Two planes are given by their traces. Find the projections of their line of intersection, and through any point that may be selected in this line draw by its traces a plane at right angles to the two given planes.

3. Given a plane by its traces, and a straight line by its projections, determine by its projections the point in which the line meets the plane.

4. A pyramid has an equilateral triangle for its base, the sides of

*Appendix,
No. 8.

General
Class Ex-
amination.*

which are one and a half inches long, its vertex is two inches above the horizontal plane, and perpendicularly over any point that may be selected within the base. Construct the angle that any two of its sloping edges make with each other, and the angle that any two of its sloping sides make with each other.

5. A straight line cutting the axis at an angle of 30° is the trace of a plane. Construct the angles it makes with the horizontal and vertical plane of projection.

6. Draw the plan and elevation of an equilateral triangle, the sides of which are one and a half inches long and the corners $\frac{3}{4}$" 1" and 1$\frac{1}{4}$" respectively above the horizontal plane.

7. The centre of a sphere of 1" radius is the apex of a cone whose height is 2" and diameter of base 2"—draw the elevation when the cone is standing with its base on the horizontal plane; also draw a section made by a plane parallel to a generating line of the cone, and cutting both solids.

8. Given a cube whose edges are 1$\frac{1}{2}$" long—construct the length of its diagonal.

9. The horizontal trace of a plane makes an angle of 30° with the axis, and a point is given by its projections; find the vertical trace of the plane that passes through the point.

10. The vertical trace of a plane makes an angle of 45° and the horizontal trace an angle of 30° with the axis; determine the point in the plane which is 1" above the horizontal plane and 2" from the vertical plane.

11. The vertical trace of a plane makes an angle of 45° with the axis, and the plane is inclined at 30° to the vertical plane; find the horizontal trace of the plane.

12. Through a line given by its projections, draw a plane making an angle of 60° with the horizontal plane.

13. Two lines that neither meet nor are parallel are given by their projections; construct the line that is perpendicular to both.

14. A sphere of 2" diameter has its centre 1$\frac{1}{2}$" above the horizontal plane, draw the outline of the shadow that is cast upon the horizontal plane, the projections of the ray of light making angles of 45° with the axis; also draw the boundary line between the directly illuminated and non-illuminated parts of the sphere.

SECOND YEAR STUDENTS.

SURVEYING, LEVELLING, MENSURATION, &c.—*Examiner, Professor
Fuller.*

1. A survey is made with a chain, and the area found by calculation to be 8,742,000 square links; on comparing the chain with a standard it is found to be 2" too long. Find the correct area in acres, roods, and perches.

2. Explain the methods of extending a station line that is intercepted by an obstacle which can be chained round, but not across, or seen over, both with and without the use of an instrument for measuring angles.

3. Describe the optical square, its use, and the method of testing and adjusting it.

4. In setting out the principal lines of a survey, on what principle

would you proceed, and what checks are necessary to guard against in-
accuracies in the measurements of lines?

5. Adjustment of the transit-theodolite:

   (a) The vertical axis must be truly vertical.

   (b) The horizontal axis must be truly level.

   (c) The line of collimation must be at right angles to the horizontal
     axis.

   (d) The bubble tube must be parallel to the line of collimation
     when angles of altitude require to be taken.

Explain how to test, and to make if required, the above adjustments.

6. Explain the method of taking an angle by repetition, and state
what errors are by this means eliminated or greatly reduced in amount.

7. Explain the principle of the vernier, and show how to graduate it
in order that it may read to 20 seconds when the horizontal circle of the
theodolite is graduated to one-third of degrees.

8. Explain the nature and method of conducting a traverse survey.

9. Explain the effect of parallax when observing the angles between
stations by means of the sextant, and how may it be diminished?

10. Describe some methods of finding the areas of fields when you use
the plotted survey, and when the field book.

11. Explain Amsler's Planimeter, and show that when the fixed point
of the instrument is outside the area to be measured that the area is
equal to the distance rolled by the wheel, multiplied by the length of
arm on which the wheel revolves.

12. Explain any methods you know of keeping the field level book;
illustrating by an example, and explaining what checks are necessary
for ascertaining the accuracy of the arithmetical work.

13. Two straight lines meet at an angle of 120° and are to be joined
by a circular curve of ½ mile radius. Calculate

   (a) Distance of commencement of curve from the point of inter-
     section of the lines.

   (b) Angle to be used in setting out the curve by means of chords
     of 66 feet.

   (c) Distance of the middle point of the curve from the point of
     intersection of the lines.

SECOND AND THIRD YEAR STUDENTS.

OFFICE AND FIELD WORK.

1. Prove the three formula for finding the contents of a block of
earth-work, known as those of "mean areas," "mean heights," and
prismoidal formula; and show in what they all agree, and in what they
differ.

2. Describe the method of setting out in the field, by the use of the
levelling instrument, the width of land required on each side of the
centre line of an embankment, when the heights of the embankment
above the centre line, the width of the top of the embankment, and the
slope of the sides, are known, and the surface of the ground slopes across
the direction of the centre line.

3. Prove the rule known as "Simpson's rule," for finding the area
included between a curve, two ordinates and abscissa, when the number
of ordinates is odd.

4. With the following data :—

Height of Surface of Ground above Datum line.	Height of Formation Level above Datum.	Height of Surface of Ground above Datum line.	Height of Formation Level above Datum.
360.66	349.07	305.90	337.22
363.69	347.75	271.68	335.91
366.58	346.43	270.78	334.59
371.33	345.11	281.94	333.28
373.69	343.80	301.71	331.96
371.97	342.48	319.21	330.65
363.76	341.17	322.85	329.33
354.44	339.85	327.52	328.02
339.45	338.54		

On embankment, width of formation 19 feet, and slopes 1½ to 1.
In cutting, width of formation 16 feet, and slopes 1 to 1.
Calculate, by the method of mean areas, the cubic contents.

5. Show how to draw the plan of a spiral plane upon a cylinder, and how to draw the development of its inner and outer edge.

6. Explain the terms "coursing spiral," "heading spiral," "face line;" and show the position of them upon the soffit of a skew arch and upon its development.

7. Show how to calculate the axial length of the intradosal spiral, and explain why the angle of that spiral with the axes of the bridge usually requires adjustment.

8. What is the focal eccentricity of the face joints of an oblique arch? Show how its amount may be calculated.

THIRD YEAR STUDENTS.

CIVIL AND MECHANICAL ENGINEERING AND ARCHITECTURE.

1. What is the best practical test, when possible, of the durability of a building stone? and why is a large absorption of water by a building stone considered bad?

2. Two heads of burnt limestone are found to slack with difficulty, one is found to be a good lime for building, the other not. What is the essential difference in their composition?

3. Show how to determine the angles the face-joints of a skew arch make with the coursing-joints,
    (a) By making use of the centreing ;
    (b) By geometrical construction.

4. Describe and sketch some methods of connecting two pieces of timber to resist " tension, compression, and cross-strain."

5. A rectangular beam 12" deep and 6" broad, and supported on two points 10 feet apart, is loaded with a weight of 10 cwt. in the centre and with a uniform load of 58 lbs. per foot-run, including the weight of the beam :
    (a) Determine the stress per square inch upon the top and bottom fibres at a section 2 feet from the end ;
    (b) Also the mean shearing stress at that section.

6. Sketch some forms of cross section most usually adopted by Engineers for cast and plate-iron girders, and give the reasons for their difference.

7. Explain and illustrate how, when a beam supported at both ends is under vertical loads, the bending moments may be found graphically.

8. A rectangular bar of wrought iron 10″ × ½″ is pulled lengthwise by a force of 20 tons; the axis of stress is in the plane passing through the longer axis of the rectangular section and 4″ on side of the shorter axis. Determine the stress per unit of area, upon the fibres situated at the two edges of the bar.

9. State the different items whose sum forms the load upon a roof truss and upon a bridge truss.

10. A bridge truss of 56 feet span consists of seven equilateral triangles. It is loaded upon the triangles of the lower chord with 8 tons, 2 tons, and 2 tons, respectively, and is supported on the end joints of that chord. Find the stresses upon the different members of the truss.

11. Find the stresses on the members of the above truss when loaded with 3 tons on each top joint in addition.

12. Describe the method of sinking shafts by underpinning and by drum-curb.

13. Describe the materials used for the permanent way of a railway, and some of the common methods in use for fixing them together.

14. Describe some methods employed by Engineers of making foundations with cylinders of brick and metal.

15. Describe some methods of constructing cofferdams, and the purposes for which they are used.

16. Explain the meaning of the following terms in Architecture:— Apse—Astragal—Barge Board—Buttress—Chancel—Crypt—Gable —Gargoyle—Groin—Modillion—Ovolo—Quatrefoil.

17. Trace the changes that took place in the form and tracery of windows in English Architecture from the Norman Conquest to Henry VIII.

NATURAL PHILOSOPHY.—*Examiner, Professor Everett.*

EXPERIMENTAL PHYSICS.

1. A uniform pole, weighing 10 lbs., is supported on the shoulders of two men, at equal distances from its ends. The distance between the two points of support is 10 feet, and a load weighing 100 lbs. is hung from the pole, at a point distant 3 feet from the hindmost man, or 7 feet from the foremost. Find the pressure on the shoulder of each man.

2. In a hydraulic press, the handle gives a leverage of 6 to 1, and the diameters of the two plungers are respectively an inch and 6 inches. Compute the mechanical advantage.

3. A cubic centimetre of lead weighs 11 grammes, a cubic centimetre of water 1 gramme. How much lead will a cubic decimetre of air carry in water; (first) if the lead is completely out of the water; (secondly) if the lead is completely immersed?

4. What temperature Fahrenheit corresponds to 15° centigrade; and if a body rises in temperature to the extent of 25° centigrade, what is the rise when expressed in degrees Fahrenheit?

5. Describe one form of maximum thermometer.

6. A litre of air, at standard pressure, and temperature 0°C., weighs 1⋅3 gramme. Find the weight of a litre of air at 100°C., at the same pressure. Also the weight of a litre of air at 100°C. and double pressure.

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7. How would you give a gold-leaf electroscope a positive charge by induction?

8. Describe the essential parts of a thermo-pile.

9. What is the difference between the behaviour of hard steel and of soft iron, as regards magnetism?

10. What is the physical difference between a note of low pitch and a note of high pitch; and what are the physical definitions of the intervals called by musicians the octave and the fifth?

11. How can the overtones of a musical string be produced; and what are the pitches of the first four of them, if the fundamental note is C of 256 vibrations per second?

12. What is meant by a principal focus, (first) when real, (secondly) when virtual? What are meant by conjugate foci?

13. It is found that the smallest distance at which a sharp image of a gas flame can be thrown upon a screen, by means of a given lens, is 2 feet from the flame. Find the "focal length" of the lens. Also give the general formula for conjugate focal distances.

14. Describe, with the aid of a sketch, the positions of the slit, the collimating lens, the prism, and the observing telescope, in a one-prism spectroscope.

NATURAL HISTORY.—*Examiner,* Dr. Cunningham.

BOTANY.

[Senior students omit questions 2 and 5; Junior students omit questions 6 and 8.]

1. Give a short account of the methods by which cell-production is accomplished.

2. Briefly describe the various forms of indefinite inflorescence.

3. Describe the structure usually exhibited by a normally developed anther. Mention any peculiarities in the anthers of any plants that may occur to you.

4. Explain and illustrate by outline diagrams the distinctions that exist between orthotropous, campylotropous, amphitropous and anatropous ovules.

5. Explain what is designed by the terms parietal, axile and free central placentation.

6. Describe the method of reproduction in ferns and in mosses.

7. State the characters of Papaveraceae, and mention the names of some of the more noteworthy genera.

8. What are the diagnostic characters of Juglandaceae, Cupuliferae, Betulaceae, and Salicaceae?

9. What are the main points in which Cyperaceae differ from Gramineaceae?

10. To whatorders do the following genera belong:—Stellaria, Myosotis, Rhododendron, Rubus, Menyanthes, Vinca, Datura, Calceolaria, Ficus, Pinguicula?

CHEMISTRY.—*Examiner,* Dr. Andrews.

PRACTICAL CHEMISTRY.

1. How would you determine the amount of sulphuretted hydrogen and of sulphides in a sulphur spring; (a) by the help of the balance, and (b) volumetrically? Give the details of the calculations.

2. What are the tests for the nitrous and nitric acids?

3. What are the blow-pipe tests for the oxides of iron and of copper?

4. Give an account of the characteristic reactions of the formic, oxalic, and acetic acids.

5. State in symbols the reactions which take place when solutions of the alkaline salts of the three modifications of phosphoric acid are respectively added to a solution of nitrate of silver.

6. How would you analyse galena, the native sulphide of lead?

7. What is Nessler's test for ammonia.

MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN.—*Examiner, Dr. R. F. Dill.*

1. Define natural labour. What is the ordinary time occupied in each stage of natural labour?

2. What is the duration of human gestation? How would you calculate the date of parturition?

3. What is the longest time to which human gestation has been protracted? What is the shortest time within which a living and viable child can be born?

4. Describe the mechanism by which the full dilatation of the os uteri is effected.

5. How are true labour pains to be distinguished from spurious or false pains?

6. What are the physiological conditions to be aimed at in treating a case of post-partum hæmorrhage? State both the preventive and the curative measures in post-partum hæmorrhage.

7. Name the operation indicated at the term of labour in each degree of contraction of the pelvis, in its conjugate diameter (four degrees of contraction being given).

8. What are the general rules preliminary to the use of the forceps?

9. What are the rules regarding the introduction and use of the long curved forceps?

10. What do the following symptoms indicate?—

A woman has been recently confined; she complains of being faint, and of tinnitus aurium; there is no undue discharge; her countenance becomes pallid; nausea, vomiting, extreme restlessness and quick breathing soon follow; if she be not speedily restored her pulse sinks, and she expires after one or two gasps.

11. Labour is progressing, it becomes violent, then suddenly ceases; severe pain is felt, with restlessness and loss of a little blood; the presenting part recedes, the agony is excessive; her pulse is feeble and rapid; she vomits; cold perspiration covers the body; respiration is hurried, and death soon terminates the scene. What is your diagnosis?

12. What are the symptoms and treatment of Hydramnios?

MEDICAL JURISPRUDENCE.—*Examiner, Professor Hodges, M.D., F.C.S.*

1. Describe the treatment required in cases of Chronic Mercurial Poisoning.

2. Mention the minimum doses in which the following poisons have been found to produce death, Arsenious Acid, Phosphorus, Cantharides, Acetate of Lead, Laudanum, Nux Vomica, Tincture of Aconite, and refer these poisons to their places in the classification adopted in the lectures.

*Appendix,
No. 8.* 3. Give some account of the evidence on which we form an opinion in deciding cases of disputed survivorship.

*General
Class Ex-
amination.* 4. What are the signs of recent delivery?

5. Mention the average weight, size, and degree of development of a six months' child.

6. Describe the method of applying the Hydrostatic test in cases of supposed infanticide.